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CONTENTS

	<i>Page</i>
Northern Elements in Iroquois and New England Art. Frank G. Speck	1
The Museum Central American Expedition, 1924. S. K. Lothrop	12
Fine-line Decoration of Ancient Southwestern Pottery. W. C. Orchard	24
Arikara Household Shrine to Mother Corn. Melvin R. Gilmore	31
Monolithic Axe from Nicaragua. Marshall H. Saville	34
Remarkable Oto Necklace. Alanson Skinner	36
Recently Acquired Mohegan Articles. Alanson Skinner	38
Rama, Mosquito, and Sumu, of Nicaragua. David E. Harrower	44
Minute Gold Beads from La Tolita, Ecuador. W. C. Orchard	48
Prehistoric Algonkian Burial Site in Cayuga County, New York. D. A. Cadzow	56
Arikara Units of Measure. Melvin R. Gilmore	64
Tree-dweller Bundle of the Wahpeton Dakota. Alanson Skinner	66
Pueblo Site near St. Thomas, Nevada. M. R. Harrington	74
Recent Accessions by Gift	77
Notes	82

INDIAN NOTES

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VOL. II

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No. 1

NORTHERN ELEMENTS IN IROQUOIS AND NEW ENGLAND ART

STUDY of ceramic remains has been regarded for some time as one of the surest ways of establishing the culture identity of an unknown people. Its reliability has been worked out in a number of cases, in American as well as in classical archeology. But before this method of determination can be employed, of course, it is required that the early native culture in question have actually possessed the ceramic art and industry. Accordingly, for the areas of North America where agriculture was carried on as an important thing—and this would be over the whole southwestern area, the southeastern, the Mississippi valley, and the Atlantic coast to New England and south of the Great Lakes—the ceramic inquiry is indeed a most impor-

INDIAN NOTES

tant one in the investigation of economics and arts. Yet the remaining northern and the North Pacific portions of the continent, where ceramics and agriculture were wanting, could not be brought under a general comparative survey by the same means, because of the entire or partial absence of this most durable documentary material.

Nevertheless, in respect to artistic ornamentation alone, and apart from its material field of representation, it must be apparent that in the northern and southern migrations which are known to have taken place, there would have been a carrying-over of the pattern forms and certain symbolic peculiarities in some graded forms, even when, under changed conditions, an old industry had to be abandoned or a new one adopted. So we may, for example, imagine the transfer of design and symbolism among the Navaho from basketry to blanket weaving, as the latter industry developed. And a similar case is shown in the transition from porcupine quillwork to glass beadwork, after European contact, over much of the continent, accompanied by the substitution of cloth material for leather. Likewise in the Northeast, where the writer's interests are largely centered, a striking example among the Algonkians presents itself. Here the execution of curve and floral designs in painting upon tanned-leather garments and personal articles

INDIAN NOTES

passed over almost without modification in pattern to white beadwork upon red and black cloth. The steps in the transition of technic exist all at the one time between the Naskapi of northern Labrador, who still largely wear painted caribou-skin garb, the Montagnais, a little nearer the trading posts, whose technics are part leather, part cloth, and lastly the Micmac and the other Wabanaki tribes, south of the St. Lawrence, who are exclusively beadworkers on cloth.

Having accordingly to rely often upon the most perishable materials, those of leather, cloth, and embroidery, for the preservation of evidences that may indicate relationship and diffusion, the design motives themselves become, then, a heavy factor element. It can hardly be held that historical accident will account satisfactorily for the recurrence of similar design ornaments among different tribes, no matter what their other culture affinities may be. Such occurrences are reasonably attributed to diffusion. Some clear-cut indications of relationship in the design content, for instance, of the Iroquois and their Algonkian-speaking neighbors, show that, despite certain other non-resemblances between these two eastern groups, there has been an art influence of one upon the other. Now recently, as an outcome of general consideration and comparison of art motives among the Algonkians of

INDIAN NOTES

New England, and those of the more remote Northeast, I have decided to place on record a few thoughts, which seem to lead toward a conclusion I had already hinted at in a former paper, in respect to the supposed derivation of Iroquois design patterns from the Algonkians whose habitat in the north they invaded during one of America's historic native migrations. The study of decorative art in the Northeast, which is evoking more and more interest among ethnologists who are struggling with the problems of the area, now assumes a rôle of considerable historical importance, bearing on the whole Iroquois-Algonkian question.

The recent recovery of several interesting specimens of art-work from the Mohegan of Connecticut makes an occasion for reviewing the situation in a clearer light than before. In comparison with these are art specimens from the most remote Naskapi and Montagnais of the Labrador peninsula, lately obtained and investigated for the Museum of the American Indian, Heye Foundation. The latter furnish us with art material unquestionably native in origin. I believe it hardly necessary here to go into the proof of this, beyond emphasizing the fact that the designs of the uncivilized Naskapi, painted on caribou-skin with pigments composed of bird's eggs, fish blood, and milt and ocher, are beyond question an aboriginal Algonkian

INDIAN NOTES

property. In consequence, they become extremely valuable as standards of technic and designing in art for comparison with the products of the other tribes of the same lineage in the East and North-east. The Mohegan designs, for their part, afford us much-needed material, little though it is, from that ethnically almost unknown border territory lying between the Algonkian and Iroquoian areas.

If we begin with a casual survey of the two extremes of the range under consideration, we will find that comparison of Iroquois and Naskapi decorative patterns shows considerable resemblance in the recurrence of the curve as a design unit, which is fundamental to both and also includes the Mohegan material. This is precisely the point of emphasis. The double curve, which is the element pattern in Naskapi and Montagnais art, is in most cases an incurve. In the general field of older Iroquois art in bead- and quill-work we encounter the curves turned both inward and outward. The interesting fact is that Mohegan design and technic, as will soon be shown through specimen examples, is typically old Algonkian, and it belongs in an economic setting characteristic of the northern regions. This tends to establish evidence of a wide distribution, in former times, of the whole Algonkian double-curve decorative system as far south as southern New England. The infer-

INDIAN NOTES

ence hence follows that *Iroquois motives were borrowed*, or, more correctly perhaps, stolen, in view of the forcible extension of the League in the Northern states, *from Algonkian predecessors*. And further, that the bands of southern New England—the Mohegan for one—have preserved some evidence of being closely related to the early population supposed by Skinner and Parker to have been Algonkian, which was invaded by the Iroquois in New York state. It seems therefore most natural and to be expected that the base content of Mohegan decoration and technic test out to be thoroughly Algonkian, at the same time constituting a link in the series of gradations between Iroquoian and more distant Algonkian curve patterns.

The grounds for my theoretical position will need to be reviewed before the argument can become clear. The technical processes of the Naskapi, for example, whose life we take to be characteristic of the least modified culture of the family, comprise decoration, on the one hand, by painting (and farther west by porcupine-quill embroidery) on leather used in raiment and for receptacles, and secondly by etching on the natural surface of birch-bark, which has a dark coating through being taken from the tree in the winter, and which is used for the making of the so-called baskets very common among the tribes north of the United

INDIAN NOTES

States. These industrial arts are specialties in the material culture of the northern Algonkian, most pronounced among those not affected by culture influences from the more central portions of the continent where native civilization advanced to higher levels, nor from the whites. The Iroquois took over the art industry of porcupine quillwork upon leather, as the investigations of Parker and Orchard testify. This is distinctly of northern origin. But the birch-bark decorative technic never seems to have engaged their serious attention. It would hardly seem necessary to refer to the absurdity of the suggestion, proposed by Cushing in 1883, and accepted by Holmes, by Parker, and even promulgated in anthropological literature by Deniker, of the birch-bark prototype of Iroquoian pottery and pipe forms. Certainly no actual specimens corresponding to such prototypic reconstructions are in existence to support the idea—indeed birch-bark could hardly be shaped into such forms! For these particular types of ornamentation, painting and etching, we have reliable evidence among the southern New England tribes, in former times. Evidence of leather painting is handed down through the words of Roger Williams:¹ “*Wussuckbosu*, Painted. They also commonly paint these

¹ Key into the Language of America, 1643, *Collections Rhode Island Historical Society*, Providence, 1827, pp. 107-08.

INDIAN NOTES

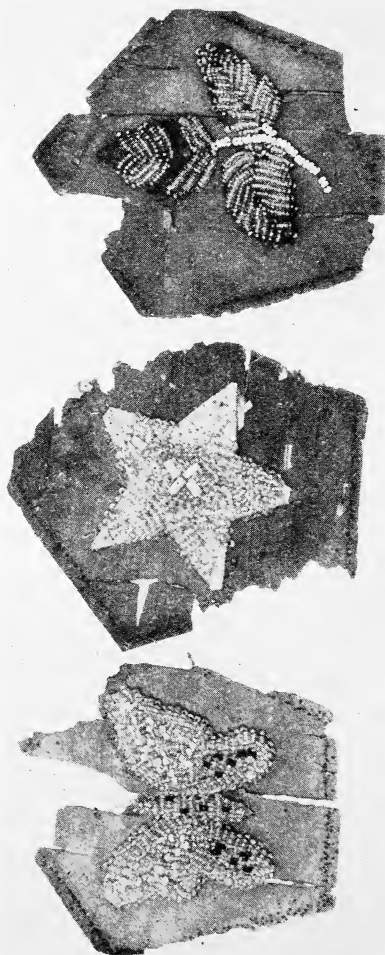


FIG. 1.—Fragments of old Mohegan birch-bark box-tops decorated with butterfly, five-pointed star, and leaf designs. (These specimens, together with those illustrated in fig. 2, are in the Museum of the American Indian, Heye Foundation.)

INDIAN NOTES

Moose and Deere skins for their summer wearing, with varieties of formes and colours." The Naskapi still refer to their painted coats by using the cognate term *ucigì*, and the Mohegan correspondent is *wùskusu*, "it is painted, or written." A further resemblance worth noting between the decorative habits of the Mohegan and their far-northern relatives is a restriction in the use of colors to red, dark yellow, blue, and black. These four colors alone are found on the ornamented, painted skin coats of the Naskapi and on the painted splint baskets of the southern New England tribes. And next, for the other, the birch-bark ornamentation, there exist, fortunately in more tangible form than words, the actual objects in the collections of the Museum of the American Indian, Heye Foundation. These were obtained by Miss Tantaquidgeon, of the Mohegan tribe, and myself over a period of some years. Another was obtained by Harrington from Mohegan a number of years ago. The specimens are fragments of birch-bark receptacles, small boxes for trinkets, decorated with sewed-on bead-work (figs. 1, 2).

The articles are unique in American native art, so far as it is represented in collections, for while the Micmac and the Ojibwa employ the technic of porcupine quillwork on birch-bark in ornamenting their well-known bark wares, no other instance of



FIG. 2.—Mohegan objects of birch-bark decorated with beadwork designs.

INDIAN NOTES

beading on the same material has been reported or exhibited. The specimens referred to are five in number, and are very old, coming from a period in the history of the Mohegan before the handful of survivors had abandoned their native arts and customs. In retrospect, I think it is quite reasonable to derive the technic of beadwork on birch-bark from a predecessor in which the glass beads of the white man played no part, namely, the porcupine-quill or else the bark-etching process.

To summarize briefly, the painted-leather ornamentation of Williams' narrative, the surviving painted designs on Mohegan splint basketry, which I dealt with in a paper some years ago,² and the beadwork on birch-bark, all compose a triangle of evidence of the former northern affinities of these Indians. This would seem to have weight as a step onward in the progress of solving the problem of Algonkian migration and shift, and the absorption of Algonkian art ideas by groups coming in contact with them in the north. Without laying too much stress on the unsolved question of their racial affinity with the Iroquois and the Wabanaki of northern New England and the Maritime Provinces (that is, in being moderately long-headed), it seems suggestive now that the Connecticut tribes had, in addi-

² Decorative Art of the Indians of Connecticut, *Geological Survey of Canada*, 1915.

INDIAN NOTES

tion, certain art affinities with both the Algonkian of the north and the Iroquois. For only in the north is the surface of birch-bark utilized as a field of decoration. Thus we may imagine how the Mohegan, through a tradition of birch-bark decoration, linking them anciently with a region farther north than that which they have held in recent times, retained the practice in a later period of their history, even under the handicap of paucity of the material. The canoe birch (*B. alba papyrifera*) is not by any means an abundant or a large tree in central Connecticut, while the gray birch (*B. populifolia*), of a much inferior quality of bark for the purpose in mind, is common. It is, indeed, the bark of the latter that was used in the making of the bead-decorated bark objects on whose historical interpretation this paper is based.

FRANK G. SPECK

THE MUSEUM CENTRAL AMERICAN EXPEDITION, 1924

THE primary purpose of the writer's journey to Central America last spring and summer was to strengthen the Museum's collection from El Salvador and also to obtain all possible data regarding this archeologically little-known country. To that end several months were passed in visiting many

INDIAN NOTES



FIG. 3.—Figurine types of eastern Salvador. *a*, *b*, "Archaic"; *c*, *d*, Transitional; *e*, *f*, *h*, Lenca-Ulva; *g*, Chorotegan.

INDIAN NOTES

ancient settlements, as well as modern villages where aboriginal arts and industries still survive.

The sites visited include Quelepa, Tacuzcalco, Sonsonate, Cacaopera, El Rodeo, Santiago de María, Tecapan, California, Berlin, Hacienda Santa Anita, Mercedes Umaña, El Caragual, Estanzuelas, Los Bonetes, Gualococte, Conchaguita, Chalchuapa, Tazumal, San Jacinto, Los Tablones (1. Guija), Yucuaiquin, La Bermuda, Hacienda la Asunción, Hacienda de Chacahuaca, Cuscatlan, and others. Specimens are now in the Museum from most of these, as well as from others which the writer did not have time to visit.

In the archeological collection are stone axes, spear-points, knives, scrapers, bark-beaters, metates, etc. A stone yoke and a death's head obtained near Suchitoto will be mentioned in another paper. In addition many ceramic specimens were procured.

Although no detailed study has yet been made, several interesting points are brought out by the distribution of the various classes of pottery. In the first place, pottery figurines of sub-Mayan types (fig. 3), associated with several distinct classes of ceramic vessels, were found to come almost entirely from east and northeast of the Lempa river. This region was occupied in the sixteenth century largely by the Lenca, whose handiwork these objects must be.

INDIAN NOTES



FIG. 4.—Cacaoopera dance of the Macaws

INDIAN NOTES

West and south of the Lempa river at the time of the Conquest dwelt the Pipil, a Nahuatl-speaking group. From their territory comes more than ninety per cent of the elaborate polychrome pottery of Mayan type, found in some quantity in El Salvador. It is probable that the Pipil represent part of the great dispersal from Mexico after the fall of the legendary Toltec empire. In fact, the two largest Pipil cities, Cuscatlan and Tehuacan, doubtless take their names from two towns near Cholula in Mexico. It is also probable that the Pipil did not exterminate the Mayan people which they encountered, but rather enslaved them and borrowed a part of their superior artistic inheritance. A remnant of the former Mayan settlements existed after the Conquest, speaking two dialects: Pokomam and Chorti.

A study of distribution also shows that more than ninety per cent of the so-called "Archaic" pottery comes from Lenca territory. In El Salvador this culture has diverged from the Mexican types, and examples occur which blend into the types above classed as Lenca. El Salvador is apparently the southern limit of the "Archaic" culture.

A further point brought out by the study of distribution is that practically all the Tlaloc vases and other objects of purely Aztec type have come from the places where Mexican allies of the Spanish con-



FIG. 5.—Ancient dance masks, Conchagua. (Height, 7 and 8 inches.)

INDIAN NOTES

querors settled. Are these then to be considered pre-European trade pieces or the handiwork of post-Conquest Mexican settlers? The material at the command of the writer is not large enough to justify a conclusion.

The Pipil-Maya and Lenca-"Archaic" division of the country brought out by a study of the pottery distribution is further emphasized by the nature of the archeological sites. In the first region there are mounds of considerable size and regularity of outline placed in formal groups around rectangular plazas. In the second area mounds are smaller, and, as is also the case in the present Indian villages, there is usually no regular plan.

Modern Indian villages visited by the writer belong to three linguistic groups: Pipil, Lenca, and Ulva. Superficially the culture of all three is very similar, but the Pipil towns have Guatemalan features, introduced as the result of trade intercourse.

Although it was not the season for Indian dances, the writer was fortunate enough to witness a special performance of the Dance of the Macaws at the Ulva town of Cacaopera (fig. 4), and to obtain the masks, feather headdresses, rattles, etc., used by the performers. In addition, masks and dance paraphernalia from other towns were procured, including two interesting specimens, blackened by age, from Conchagua (the town, not the

INDIAN NOTES



FIG. 6.—Dance masks. *a, b*, Yucuaiquin; *c*, Cacaopera; *d*, Conchagua.

INDIAN NOTES

island). One of this pair (fig. 5, *b*) clearly represents the Mexican god Xipe, wearing the flayed skin of the sacrificed. To the natives today this mask is known as *vieja loca* (the old mad woman) and the companion (*a*) is *viejo loco* (the old mad man). The sex of the two has been changed in the course of centuries. While the one clearly represents Xipe, the other may personate Tlaçolteotl, the Earth Goddess and Mistress of Filth, who was associated with Xipe in the Aztec pantheon.

It will be recalled that the Xipe cult existed among the Maribio, just across Fonseca bay from Conchagua, and that this tribe killed their aged, and, clad in the flayed skins, gave battle to the invading Spaniards. In memory of this event for some time after the Conquest the district was called the province of the *Desollados*, or Flayed Ones.

Of the dance masks shown in fig. 6, *a* and *b* are worn for the Dance of the Halberds at Yucuaiquin, the chief feature of which is a juggling display with two of these sixteenth-century weapons; *c* is used in the Dance of the Black Ones at Cacaoopera, in which the men wear high boots and spurs; *d* is from Conchagua, and is worn in a dramatic representation of the wars of the Jews and Philistines.

The processes of making rope, hammocks, bags, nets, baskets, gourd and pottery vessels, etc., were

INDIAN NOTES

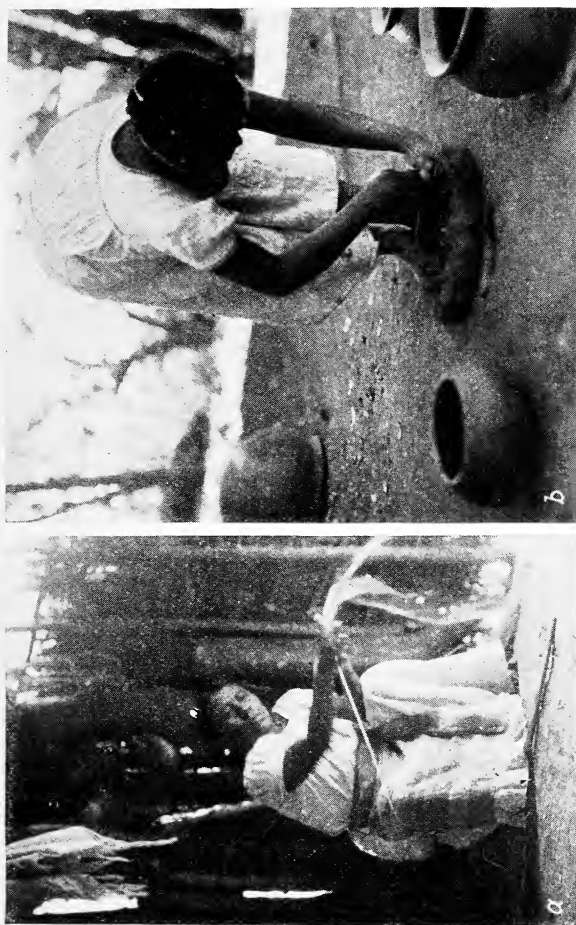


FIG. 7.—Cacaoopera rope-making (*a*). Guatajiagua pottery-making (*b*).

INDIAN NOTES

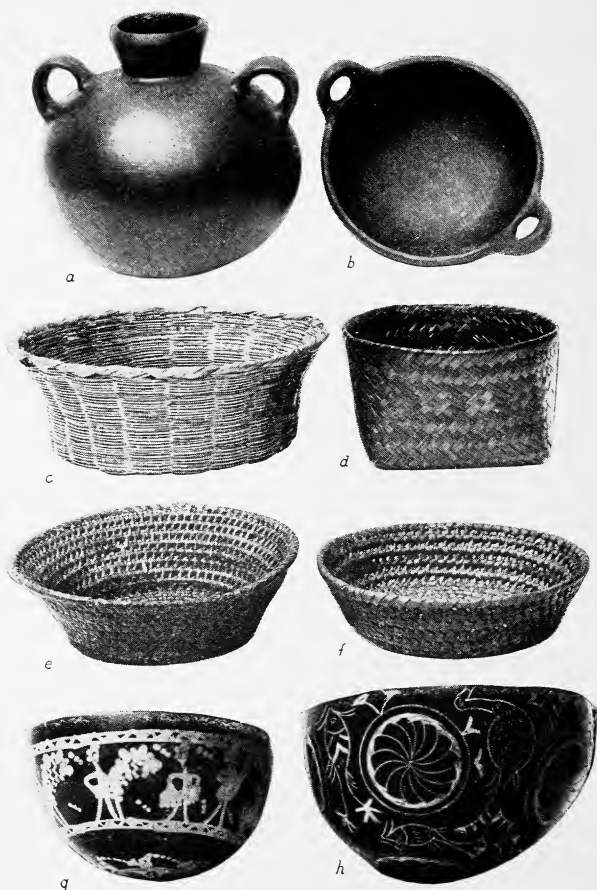


FIG. 8.—Pottery, baskets, and gourds. *a, b*, Guatajiagua;
c-e, Nahuizalco; *f*, Yucuaiquin; *g, h*, Izalco.
 (Diameters, 7 to 11 inches.)

INDIAN NOTES

studied and photographed at several villages. Fig. 7 shows the making of rope by hand in the village of Cacaoopera (*a*), and also the first step in an unusual process of pottery-making in the town of Guatajiagua (*b*).

Completed vessels from the latter town are shown in fig. 8, *a*, *b*. This ware is prized among the natives today on account of its lightness and strength. In the same illustration (*c-f*) are shown baskets of various weaves. It will be noted that *c* and *e* are of a shape which appears on Mayan bas-reliefs of the Old Empire. This form, therefore, has persisted among Middle American peoples for at least 1500 years. That the shape is functional is not apparent at first glance, but as a matter of fact the curious out-curved rim supports the basket when carried against the hip. Shown in *g* and *h* are gourd receptacles from the Pipil town of Izalco, decorated by the lost-color process of wax painting and by carving.

At the present time a more detailed statement would be injudicious, but it is the writer's intention to prepare for publication the material obtained as rapidly as possible. In conclusion he wishes to thank all those who have aided him in his travels, and those who have presented specimens to the Museum.

S. K. LOTHROP

INDIAN NOTES

FINE-LINE DECORATION OF ANCIENT SOUTHWESTERN POTTERY

THE recent acquisition of a large number of prehistoric pottery vessels from the region around St. Johns, Arizona, has brought to notice some examples that are especially noteworthy by reason of the remarkable regularity and systematic treatment of the designs. Vast quantities of this well-known type of pottery have been recovered by the exploration of ruins in the Southwest, and while much has been written on the symbolism of the decoration, little has been published on the art of applying it. We have definite knowledge of the materials and implements used by present-day Pueblo potters, and as specimens practically identical with their product have been unearthed during archeological excavations, there is every reason to suppose that there has been no material variation in the process of manufacture from early times to the present. But the decoration of pottery vessels of today suffers from comparison with that of the ancients.

As the process of making the pottery has been described, it will not be necessary to mention now more than the fact that the series of motion pictures made at Zuñi in 1923 by the James B. Ford Expedition of the Museum includes the process of pottery manufacture from start to finish.

INDIAN NOTES

The class of pottery under discussion is the ancient black-and-white variety, that is to say, the vessels, after being shaped and allowed to dry, were coated with a white clay slip, doubtless applied with a piece of rabbit-fur as it is today, which when dry was smoothed with a polishing



FIG. 9.—Brushes made from yucca-leaf. That in the right hand is a narrow strip that has been used for fine-line work. The left hand is holding a new brush the full width of a leaf.

pebble and the design laid on with black paint, made by rubbing a soft mineral substance on a flat stone, making it fluid by mixing with water, and, by modern artists, at least, with the juice boiled from the bee-plant (*Peritoma serrulatum*), and probably with other plant juices according to individual

INDIAN NOTES

custom. The slab on which the paint is ground serves also as a palette.

The most interesting of all the implements is the brush, made from the fibrous narrow-leaved Spanish



FIG. 10.—Pitcher from Cedro mesa, Arizona. (Height, $7\frac{3}{4}$ in.)

bayonet (*Yucca glauca*). Sections of the leaf, about six or eight inches long, are used (fig. 9). While green, the fleshy matter is chewed from the fiber,

INDIAN NOTES

exposing an inch or two which is the "hair" of the brush, the unchewed portion forming the handle. For very broad lines a strip about half an inch wide is selected; for finer lines the leaf strip is split lengthwise into sections according to the desired



FIG. 11.—Jar from Zuñi, New Mexico, showing the position of the artist's hand supported by the jar, and the way of holding the brush while applying the decoration. From a motion-picture made by the James B. Ford Expedition, 1923.

width of line to be painted. Crude as this brush may appear to be, it is nevertheless well suited to the requirements of the work. The fiber is stiff and more or less unwieldy when dry, but when moistened with the paint it becomes sufficiently pliable to

INDIAN NOTES

carry and lay the color where the artist wishes to apply it. A well-made striping brush such as used by carriage painters could hardly have done better work than that produced by the prehistoric artists with their simple brushes of yucca-leaf.

The pitcher shown in fig. 10 bears the decoration on its convex exterior, where the painting was comparatively easy, for there was no obstruction to free movement, while the vessel itself afforded a convenient and comfortable support for the hand.

Fig. 11 illustrates a vessel in the process of being decorated by a present-day Zuni potter, the hand and fingers being supported by the jar. The decoration in this case, however, is not an example of fine line-work such as is seen on so many ancient receptacles. Incidentally this illustration shows how readily any part of a motion-picture may be adapted to the purpose of reproduction.

The bowl illustrated in fig. 12 is decorated on the concave inner surface, which presented an entirely different condition. The incurved wall of the bowl obstructed a free movement, for it had a tendency to tip the hand and to so flatten and broaden the brush as to produce an irregular line of varying width. The vessel illustrated shows how this tendency has been overcome by patience and untiring practice. A misplaced or badly drawn line would have spoiled the work, as it could not have

INDIAN NOTES

been removed without destroying the white slip with which this class of pottery was coated before the black-line decoration was applied. The design represents a conventionalized bird, the chief feature



FIG. 12.—Bowl from Mimbres valley, New Mexico.
(Diameter, $11\frac{1}{2}$ in.; depth, $3\frac{3}{4}$ in.)

of which is the manner in which the fine lines were applied to the body at three different angles, stepped toward the center.

Fig. 13 illustrates another specimen of painting on the inner surface of a bowl. The feature in this

INDIAN NOTES

case is the band of parallel lines near the rim—one broad line and eight narrow ones. The bowl is slightly irregular in shape, which perhaps accounts for the slight blemish shown near the top of the

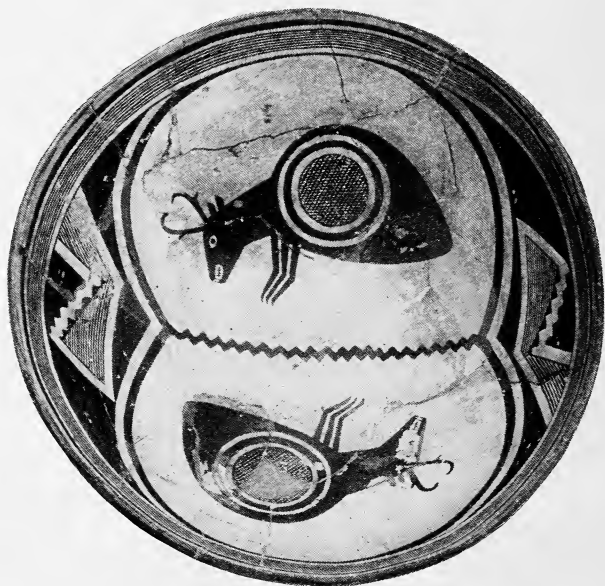


FIG. 13.—Bowl from Mimbres valley, New Mexico.
(Diameter, 12 in.; depth, $5\frac{1}{2}$ in.).

illustration at the left. The fine crossed lines in the circles on the bodies of the animal figures are also worthy of notice, and, considering the concavity of the decorated surface, the circles themselves are painted with a remarkable degree of symmetry.

INDIAN NOTES

The designs painted by modern Indians are laid on in freehand style, no systematic rule by measurement being followed as to design or spacing, the proposed pattern being noted only in the mind of the potter. Thus far nothing has been presented to suggest that the prehistoric artists employed a different method.

W. C. ORCHARD

ARIKARA HOUSEHOLD SHRINE TO MOTHER CORN

IN July, 1923, there was purchased from Mrs. Maud Gillette, widow of Marlowe Gillette, an Arikara of Fort Berthold reservation, North Dakota, an old shrine, or sacred bundle, pertaining to Mother Corn, which had long been an heirloom in the family of her husband. The covering (fig. 14, *a*) is a buffalo-skin bag, dark brown from the countless incensings it has had in the long period of its use. This object was not one which was used in public religious ceremonies, but was for private household veneration. The only objects contained in the bag are a perfect ear of red flour corn (*b*) and a braid (*c*) of sweetgrass (*Savastana odorata*). Most commonly the representative of Mother Corn in the sacred bundles is an ear of white flour corn; sometimes, as in this case, an ear of dark-red flour

INDIAN NOTES



FIG. 14.—Mother Corn shrine of the Arikara.
(Length of bag, 17 in.)

INDIAN NOTES

corn, and sometimes an ear of yellow flour corn. In all cases which have come under the observation of the writer, flour corn was the type, whether the color was white, yellow, or red. And the ear must be perfect, no grains wanting, and entirely filled out over the tip.

The function of paying veneration to Mother Corn by means of this shrine had no set time or season, but at any time the household felt like offering reverence to it, the shrine was taken down, a sacred fire was kindled, the shrine was opened, some of the braided sweetgrass was broken fine and offered to the powers and then sprinkled upon the fire. Prayers were offered, the ear of Mother Corn was brought out to view, and both the ear and the bag which enveloped the sacred relic were incensed by being passed through the smoke of the sweetgrass. Members of the household also incensed themselves with the sweetgrass smoke, and blessed themselves from the sacred relic, drawing their hands toward themselves over it and placing their hands from the relic to their heads and down over their bodies. Thus by prayers and honest intentions, and by participation in the purifying smoke together, they sought to put themselves in accord with Mother Corn and to have her approval and blessing.

INDIAN NOTES

Mother Corn is connected with all events in the life of the individual of the Arikara tribe from birth throughout the course of life, and at death. Mother Corn was at all times invoked; her aid, counsel, and support were sought at all times.

MELVIN R. GILMORE

MONOLITHIC AXE FROM NICARAGUA

SOME years ago the Museum published a paper by the writer on Monolithic Axes and their Distribution in Ancient America.¹ In this study eight axes of the monolithic type from the region of Mosquitia, on the Atlantic coast of Honduras and Nicaragua, were described and illustrated. Two monolithic axes from Bluefields, Nicaragua, then recently acquired respectively by the United States National Museum and the Peabody Museum of Harvard University, are of special interest. The specimen in the Peabody Museum (fig. 15, *b*), 12½ inches in length, is characterized by longitudinal grooves on the handle, which is highly recurved at the point where the blade projects. The blade itself is of a form foreign to Central America, resembling certain axes from the Lesser Antilles and northern South America. The blade of

¹ *Contributions from the Museum of the American Indian, Heyes Foundation*, vol. 11, no. 6, 1916.

INDIAN NOTES

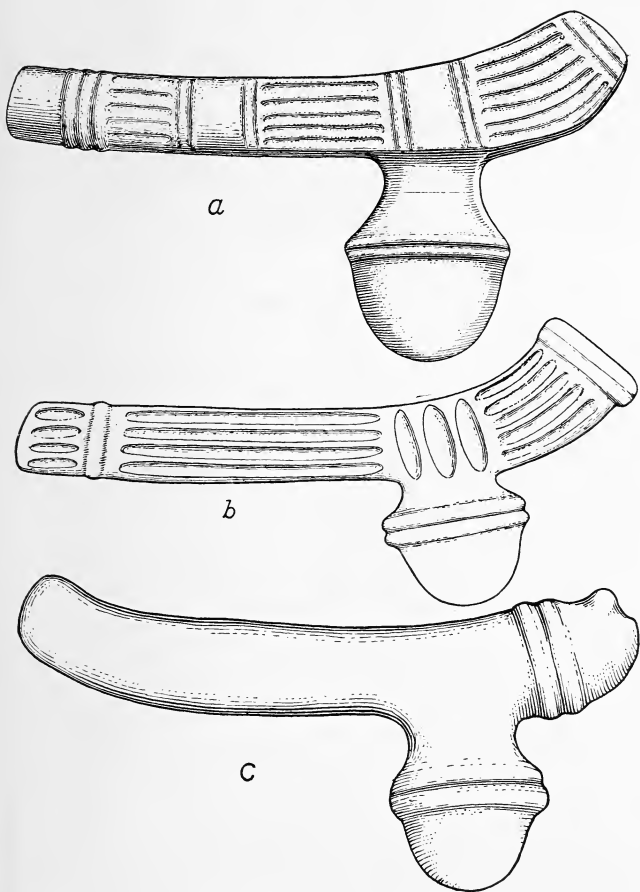


FIG. 15.—Monolithic axes from Nicaragua. *a*, Museum of the American Indian, Heye Foundation; length, $12\frac{1}{2}$ inches. *b*, Peabody Museum, Harvard University; length, $12\frac{1}{2}$ inches. *c*, U. S. National Museum.

INDIAN NOTES

the axe in the National Museum (c) is of the same form, while the handle is plain and rounded.

When the publication above mentioned appeared, the monolithic axes in the Peabody Museum and the National Museum were believed to be unique, as they were the only ones of this type then known to the writer. The Museum of the American Indian, Heye Foundation, however, has been fortunate enough to acquire an example of the same type of axe from near Bluefields lagoon (fig. 15, a), by gift of Mr. D. E. Harrower, who was in Mosquitia on an ethnological expedition for the Museum last summer. The locality in which it is said to have been found is on the mainland, near the Bluefields lagoon, in the vicinity of the town. It is of the same length as the Peabody Museum specimen, but its blade is somewhat longer, the specimen generally is more highly finished, and an attempt at more elaborate decoration of the handle by series of grooves was made.

MARSHALL H. SAVILLE

REMARKABLE OTO NECKLACE

ONE of the strangest and most interesting specimens of its kind in the Museum, illustrating the bygone life of the Indians of the eastern border of the Plains, is a charm or "medicine" necklace from the Oto tribe of the Siouan stock.

INDIAN NOTES

This necklace (fig. 16) has as its foundation a military *fourragère*, or shoulder ornament, over part of which, near the metal pendants at the ends, its Indian owner had wrapped an ornament of porcupine-quills, dyed yellow and red, the rest of the *fourragère* being covered with a wrapping of coarse "pony trader" beads in alternate bands of white and blue, so that the foundation was completely covered until some of the quillwork was worn away. The most interesting feature of the necklace, however, is the aggregation of charms attached to it, no doubt to impart supernatural power in order that its wearer might be protected from injury, and to give him courage, especially in battle.

Near one end is attached a grizzly-bear claw, once doubly perforated to form part of a necklace of otter-fur and bear-

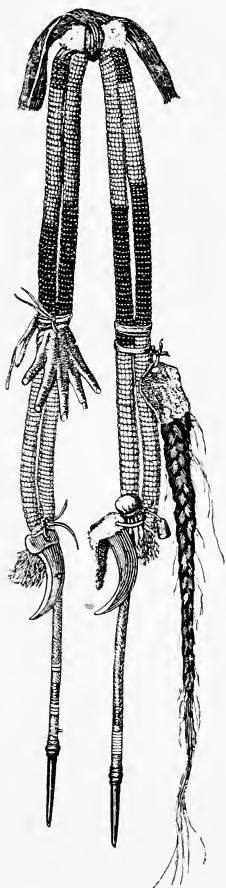


FIG. 16.—Old Oto necklace (length, 27 in.)

INDIAN NOTES

claws. A few inches above the bear-claw is fastened the dried hand of an Indian child, with thumb and fingers outspread. Near the other end is another grizzly-bear claw, bound at the base with otter-fur, and a small deer-skin packet containing two coral beans (*Erythrina flabelliformis*), and a thimble containing a packet of scarlet powder, a medicine or charm of some kind. A few inches above these articles, and balancing the hand on the other side, is a portion of a human scalp.

Information as to the exact use of this necklace is lacking, but from its appearance it seems to be a war-charm taken from one of the *manka shutze*, or "red medicine," war bundles of the Oto, as it closely resembles other examples, less adorned with charms, however, collected by Mr. M. R. Harrington and the writer among this tribe in Oklahoma.

ALANSON SKINNER

RECENTLY ACQUIRED MOHEGAN ARTICLES

Not long since there came into possession of the Museum a small but very unusual series of specimens from the historic Mohegan tribe of Connecticut, which had been preserved by an interesting chain of circumstances. The story goes that an old

INDIAN NOTES

Indian woman, living in the vicinity of Mohegan, was taken ill, and a white neighbor, touched by her destitution, nursed and cared for her until she had recovered. Eager to show her gratitude, the old Indian woman told her benefactress that while she had no money with which to pay her for her attention, she had in her trunk some things that the old-time Indians valued, and that she might take any of them she fancied. To please the old woman the neighbor selected the four articles here figured, each of which in all probability is unique.

Among these objects perhaps the most interesting is the shoulder-pouch shown in fig. 17, which is not only made of Indian



FIG. 17.—Shoulder-pouch with quill decoration.

INDIAN NOTES

tanned deerskin, but is ornamented with figures in dyed porcupine-quills. The design is a simple variant of the eastern double-curve motive, and resembles figures on Iroquois pouches of the same type. The colors are black, yellow, red, and blue, some of which may be of native origin. A narrow border of white glass beads is found along the scalloped edges.

In fig. 18 is shown a modern variety of the shoulder-pouch. This example is made of cloth, beautifully ornamented with fine, old-style glass beads. Metallic jinglers, filled with tufts of red yarn, line the upper and lower edges, and the serrated ends of the shoulder-strap are covered with silk ribbon appliqué work. The small linked diamond-shape design on the pouch is well made, and the three lower tiers of figures bear little metallic sequins in their centers. The figures on the shoulder-strap are reminiscent of some Montagnais beadwork in the Museum. The form of the entire pouch is quite characteristic of the Eastern Indians, and resembles some Delaware and even Abnaki examples.

One of a pair of woman's leggings of red cloth is shown in fig. 19, opened and spread to show the design in bead and ribbon appliqué with which it is adorned. It is quite an elaborate article of dress, and resembles both the Iroquois and the north-

INDIAN NOTES



FIG. 18.—Shoulder-pouch ornamented with beads, metallic jinglers, and yarn.

INDIAN NOTES

eastern Algonkian style of decoration, with its greater tendency toward the latter. The cut of the legging, however, is more like that of the Algon-

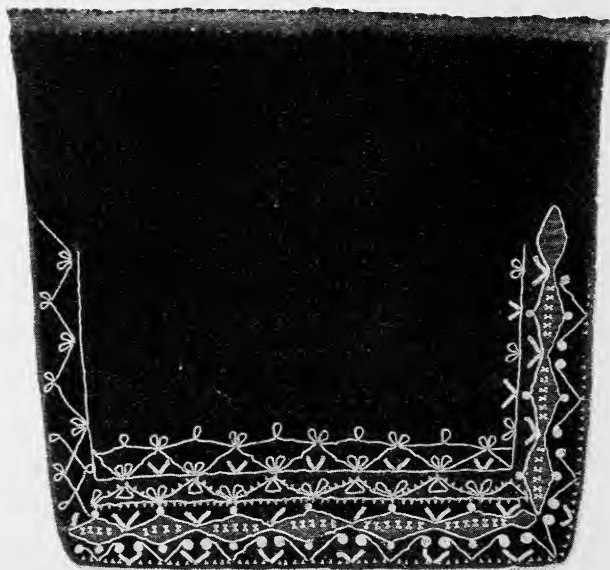


FIG. 19.—Woman's legging with ribbon appliqué.

kians of the East than the Iroquois, who often trimmed the women's leggings so that they were narrower at the ankle, but expanded into flaps over the instep.

INDIAN NOTES

Of a pair of men's woven beaded garters, on a yarn foundation, one is shown in fig. 20. The design is simple, and somewhat heavy, in the latter respect being reminiscent of some antique examples seen by the writer from the Narragansett and several Central Algonkian tribes.

It may be observed that such examples of ornamented clothing and the like as have survived among the Mahican Indians of the Hudson river region of New York, now living in Wisconsin, who are rather closely related to the Mohegan of Connecticut, do not closely resemble these specimens. For example, of several pairs of men's garters, all are woven of yarn upon which are strung a few white beads in open diamond patterns. Women's leggings are of Iroquois cut, with the narrow ankle and flaps, and with Iroquois bead designs,



FIG. 20.—Woman's beaded garter.

INDIAN NOTES

while the moccasins are of the type with a long vamp over the toe, puckered all around, whereas the Mohegan moccasins in the Museum are of the style having a long seam over the instep to the toe.

ALANSON SKINNER

RAMA, MOSQUITO, AND SUMU, OF NICARAGUA

Two months of collecting ethnological specimens in eastern Nicaragua recently resulted in the accumulation of about five hundred objects. During this period three groups of Indians were visited: (1) the Rama of Bluefields lagoon; (2) the Mosquito of the coast and larger rivers; (3) the Sumu far up in the interior. All of these have been in more or less close touch with civilization for more than a century, consequently they have lost much of their primitive character. Not only has the ease with which may be obtained the manufactured implements and products of the whites resulted in a marked diminution of native handicraft, but also the conversion of the Indians to Christianity has been followed by an abandonment of the old religious ceremonies and the colorful paraphernalia which accompanied them. Miner, rubber man, mahogany man: each contributed his bit, and finally came the Moravian missionaries, who penetrated to the uttermost palm-thatched villages.

INDIAN NOTES

Ten miles from Bluefields, the principal Atlantic port of Nicaragua, across the shallow waters of Bluefields lagoon, lies Rama key. On this small island lives a remnant of the Rama Indians, whose ancestors inhabited the mainland from the valley of the Escondido southward. These natives appear to be almost of pure blood, but the presence of two or three negroes on the island is indicative of what the future of the tribe will be. A trip to Rama key from Bluefields yielded the usual assortment of articles characteristic of a primitive tropical people subsisting chiefly by fishing. Spears, harpoons, bows, arrows, nets, and so on, are very much like those of the San Blas farther south. One large wooden turtle decoy was procured, but it was the only one observed. A curious little oblong basket, which could be filled with big tropical fireflies and thus utilized as a lantern, was one of the unique specimens collected. A few small four-legged wooden benches were still in use.

Along the coast the Mosquito Indians are so blended with the negroes that their original character has been greatly modified. The more remote villages up the main rivers, however, are not so unfavorable for collecting, since here may be found Indians living under conditions less dominated by white and negro influences. A trip was made up the Segovia, or Wanks, river to the neighborhood of

INDIAN NOTES

Waspuk, which was used as a base for excursions farther up the stream and its tributaries. One day by pitpan against the heavy current of the flood season brings one to Sang-Sang, and another day the traveler may camp at Asang. These two villages, perched high up on the steep bank overhanging the river, served as the collecting ground for Mosquito specimens, and although these Indians had for years been in contact with white traders, many interesting objects were obtained.

A great number of spoons and wabul sticks, of varying designs and diverse woods, were collected. These were usually of mahogany, but often such woods as cedro, rosewood, and sapadillo were utilized. Wooden vessels were uncommon, but a few were discovered: one with four legs, after the manner of their benches. Heavy bows of black-palm and arrows with reed shaft and black-palm head, were common. Basketry seemed well developed, much more than among the Sumu and Rama. Bark, or so-called *toonoo*, blankets occurred generally, and these were often marked with designs done in paint or by means of vegetal juices. Specimens of native cloth were difficult to procure, but some were collected, among them being two belts, each about six inches wide and seventy inches long.

Peculiarly, native musical instruments did not appear to be in general use. There were plenty of

INDIAN NOTES

harmonicas imported from Germany. Even rattles were difficult to find, and not a single drum was observed. Several flutes were procured, and a great number of *long-koos*. These latter are formed of a small bow of split bamboo with a thin string; the bow is held in the teeth and the string twanged by means of a pick of wood. One of these instruments of much greater size was collected, with a gourd for a sounding box and a string made of a heavy liana.

Although the original native ceremonies have disappeared, some of the people recall them, and are consequently able to make the peculiar head-dresses formerly worn on these occasions. By this means it was possible to secure several of these striking objects, as well as other things, such as *toonoo* masks and caps. The head-dresses served as masks also and are constructed of bark, wood, and dry grass which simulates hair. They were used by the principal mourners at funerals.

There are still a few recalcitrant old fellows who hold to the ancient beliefs and refuse to embrace Christianity. One of these, an aged *sukia*, was dying at Asang, but to the end adhered to the faith of his fathers. A *sukia* bundle was secured—cane, whistle, necklace, iron, magic stones—all black in color. It was said to be more than seventy years old.

Two Sumu villages were visited: Tuberus, far up

INDIAN NOTES

at the headwaters of the Wawa in Nicaragua; and Wanpoo, on the great Patuca river of Honduras, about one hundred and fifty miles inland. These Sumu, who differ radically in appearance from the Mosquito, show little difference in their general culture. They seem to be terribly degenerated, and disease is playing havoc with them. They are a listless people, and differ markedly from the rather aggressive Mosquito. In all their handicraft they are cruder and less skilful than their coastal relatives; only in the manufacture of clay vessels, pipes, and a few other things, do they show superiority.

DAVID E. HARROWER

MINUTE GOLD BEADS FROM LA TOLITA, ECUADOR

INCLUDED in the large collection of prehistoric aboriginal goldwork in the Museum are some beads from La Tolita, on the Island of Tola, near the mouth of the Rio Santiago, north of the Province of Esmeraldas, Ecuador. These beads are of special interest by reason of their highly artistic character and particularly on account of the minuteness of the particles of the precious metal used in fashioning them. Associated with the beads, when found, were quantities of prepared and shaped gold, together with a few objects of the metal that suggest

INDIAN NOTES

use as tools which the ancient smiths may have employed in the delicate task of bringing together the component parts. To the modern mind these objects would seem to be altogether too crude for such delicate work, but as nothing else has been found to suggest such use, it is assumed that the ancient bead-makers, like the more recent Indians, were able to produce miniature works of art with what would seem impossible appliances.

The beads referred to are of a class made of tiny pellets, which were used either alone or were combined with a wire or a series of wires, all of gold. The pellets range in size from a sixty-fourth to an eighth of an inch in diameter. It is quite possible they may have been made in the manner that bird-shot was formerly manufactured, i. e., by pouring the molten metal through a screen and allowing it to fall from a greater or lesser height into water. Other forms of the prepared material are wires of varying gauges and strips or ribbons that appear to have been beaten rather than drawn to shape.

Fig. 21 illustrates a bead formed entirely of pellets or globules, composed of six circular tiers of six globules each. Through the middle of the group there is an opening for the passage of a string. The illustration exhibits a photograph of the bead in its actual size, which is three-sixteenths of an inch, and an enlargement of a little more than nine

INDIAN NOTES

diameters. There are many beads made in the same fashion, and of smaller globules, as well as smaller in the aggregate, but a larger specimen was selected

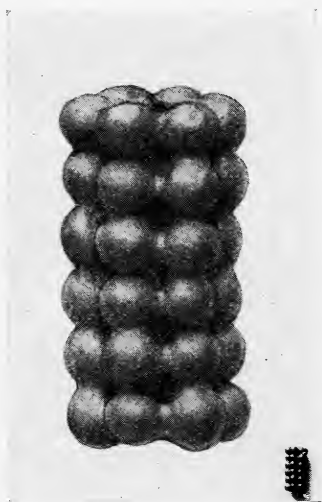


FIG. 21

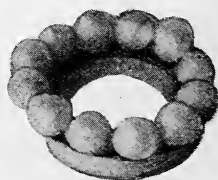


FIG. 22



FIG. 23

for convenience in illustrating. In this form of bead globules of uniform size were placed together in tiers, as shown, probably around a central core of non-fusible clay to hold them in place while being

INDIAN NOTES

brought into an inseparable group, which apparently was done by fusing. Many beads have been examined for the purpose of determining the method of uniting their parts, but in no instance



FIG. 24

has a trace of the use of solder been found. On the other hand, a number of specimens show where the parts have run together until the globules have almost lost their identity,

owing quite probably to the effect of too great heat. The spaces between the component globules shown in fig. 21 distinctly indicate where the gold has melted just enough

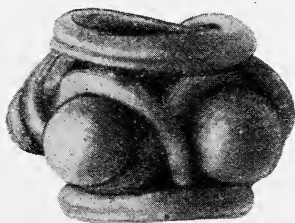


FIG. 25

to form a bridge between them, some of the joints showing greater fusion than others. It is evident that some kind of flux was employed to effect the desired union of the globules, but, like the tools used, this is still an unsolved problem. After fusion

INDIAN NOTES

has been effected, the core, if of clay, could readily have been removed, leaving a perforation such as is found in all the beads thus made.

Fig. 22 illustrates a circlet composed of twelve globules fused to a hoop of wire. This particular



FIG. 26

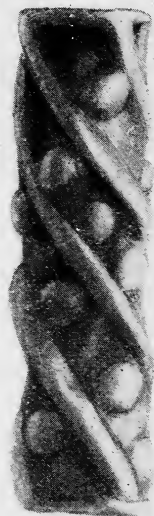


FIG. 27

form may have been made for some purpose other than a bead. It is of interest, however, on account of the size and regularity with which the globules are placed around the ring.

INDIAN NOTES

Figs. 23 and 24 were no doubt made for use as beads. As the illustrations show, the globules are mounted between two rings of wire fused together. The latter figure shows an imperfect ring on the upper side; the ends are not cut square and are not brought together, but few cases of this kind occur.

Fig. 25 presents an intricate twisting of the wire around the globules between the rings above and below. Considering the actual size of this bead, it is difficult even to conjecture how its parts were held together, let alone being shaped, before fusing.

Fig. 26 illustrates a more complicated piece of work. There are twelve globules in this specimen, with a square wire interwoven. In the illustration only two of the rows of globules are shown, but the bead presents the same appearance on the other side. The passage for a string is lengthwise of the bead, and the square wire is looped at each end, making circular openings. As in all the specimens illustrated, the actual size of the bead is shown by the side of the enlargement.

Fig. 27 exhibits a tubular bead and is of special interest by reason of the fact that it is not made of the usual globules and wire, but is formed from a piece of sheet gold, with a pattern produced, evidently by hammering or pressure, representing a series of wires turning spirally around the tube and

INDIAN NOTES

encircling the openings at each end, while between the wires a number of pellets are represented. An overlapping joint runs lengthwise of the bead, where the pattern matches perfectly, showing remarkable skill in workmanship. This joint has the appearance of being fused rather than soldered.

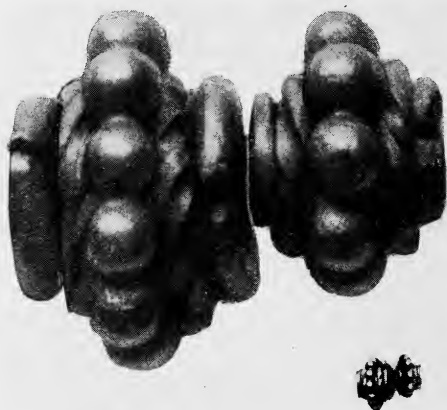


FIG. 28

Fig. 28 shows two beads in their actual size and a seven-fold enlargement. These beads are two of the largest in the string forming the necklace illustrated in fig. 29. The larger of the two is composed of twelve globules enclosed between two rings of twisted square wire, and then two other rings of

INDIAN NOTES

round wire. The smaller bead, made in the same manner, is composed of only ten globules. The enlarged photograph shows the component parts of the beads in detail, as well as the way in which the globules have been fused. The necklace consists of one hundred and seventy-seven such beads, but many of them are much smaller than the two shown in fig. 28, and the greater number are made with only two enclosing rings. The ensemble makes a truly artistic necklace and illustrates the great amount of practically microscopical work expended to satisfy the esthetic taste of the maker. It should be said that the



FIG. 29.—Gold necklace
(slightly reduced).

INDIAN NOTES

beads forming the necklace are not on the original string, but have been assembled to illustrate how they may have been used.

Several other forms of gold beads found with those herein described and illustrated, and also from other regions, will receive attention in a forthcoming publication devoted to beads and bead-work.

W. C. ORCHARD



FIG. 30.—Frontenac island, Cayuga lake, New York.

PREHISTORIC ALGONKIAN BURIAL SITE IN CAYUGA COUNTY, NEW YORK

FOR many years Cayuga county, New York, has been a happy hunting-ground for commercial pot-hunters and local diggers. Indian village and burial sites throughout this section have been searched

INDIAN NOTES

and looted to such an extent that only in a few places that have been protected from vandalism can

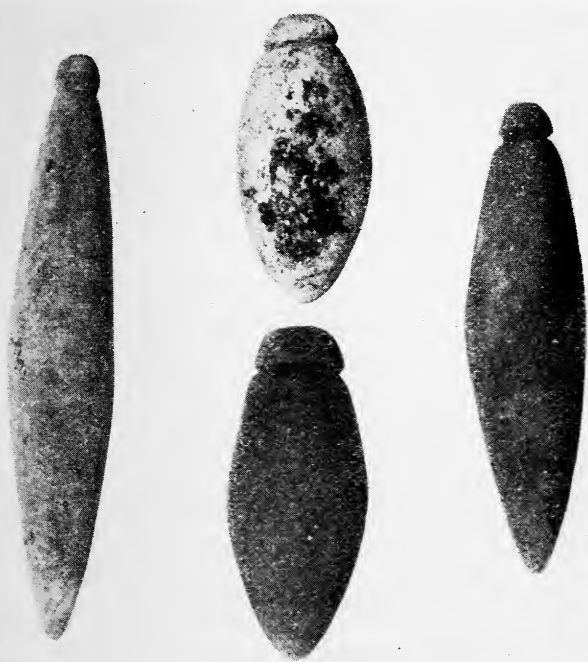


FIG. 31.—Plummet-shape stones. (Length of the longest, $5\frac{1}{8}$ inches.)

one any longer record accurate data on Indian remains.

INDIAN NOTES

Last summer, while on an archeological reconnaissance in central New York, in behalf of the Museum, an undisturbed Indian burial site on

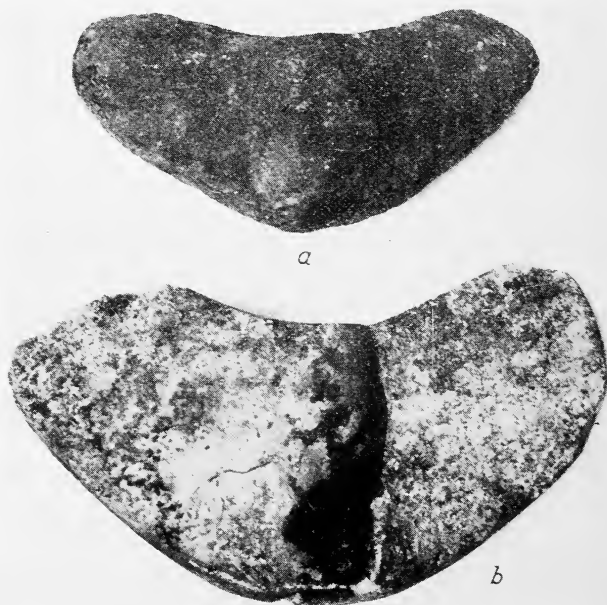


FIG. 32.—Winged bannerstones. (Length of *a*, $4\frac{1}{8}$ inches, of *b*, $5\frac{1}{8}$ inches.)

Frontenac island in Cayuga lake, central New York, was reported to the writer, a site that has been protected for many years by public-spirited citizens living nearby.

INDIAN NOTES

Through the courtesy of Mr. E. Murray, a trustee of the village of Union Springs, to whom the island belongs, permission was granted to excavate the site, and work was commenced late in July. It was not possible to do more than to initiate excavation within the time available, yet even in the brief period devoted to exploration a sufficient number of unique objects were discovered to suggest the importance of the site from an archeological point of view.

Assisted by Mr. Edward Richardson, of Auburn, who freely gave his kind services for several days, a preliminary examination was made of the island, which lies about half a mile from Union Springs and a quarter of a mile off-shore (fig. 30); it is about 200 feet square, and its south side is covered with an Indian

deposit averaging two feet to five feet in depth. Test holes and one trench dug partly through this deposit brought to light pottery, bone, and stone objects, which, according to established criteria,¹ are purely Algonkian in type.



FIG. 33.—Deer's head carved of bone. ($\frac{1}{4}$)

¹ See Skinner, *The Pre-Iroquoian Algonkian Indians of Central and Western New York*, *Indian Notes and Monographs*, vol. II, no. 1, 1919.

INDIAN NOTES

Two undisturbed burials were found, of which the second was unusual and interesting. In this

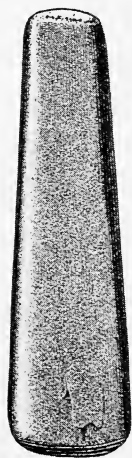


FIG. 34.—Flaker of antler.
($\frac{1}{1}$)



FIG. 35.—Bone arrow-
points. ($\frac{1}{2}$)

grave, resting on bedrock 27 inches beneath the surface, were the remains of an adult male Indian extended on the back with arms at sides and headed

INDIAN NOTES

southward. The skeleton was in very poor condition, and the badly crushed skull lay eight inches to the right of the first cervical vertebra, owing probably to disturbance by tree roots or by the burrowing of rodents.

Under the crushed inferior maxillary, which remained approximately in position, were four plummet-shape stones, ranging from two and a half to five and an eighth inches in length (fig. 31); a large perforated winged bannerstone made of white limestone (fig. 32, *b*); a small carved bone object seemingly designed to represent a deer's head (fig. 33); three large beaver incisors; a small notched flint arrowpoint; three antler flakers, all similar to the one shown in fig. 34; two bone arrowpoints (fig. 35), and the left humerus of a swan, the lower end of which had been severed evidently with a stone knife (fig. 36). This bone is more or less polished and one projecting process is perforated, perhaps for suspension. In the right hand of the skeleton, resting on the phalanges, was a small bone spoon (fig. 37), three inches from which, lying on the bedrock, were three small beaver teeth, an imperfect barbed bone harpoon-point (fig. 38), and an antler flaker. Under the left hand was a small perforated winged bannerstone (fig. 32, *a*). Touching the right fibula lay the crushed skull of another adult person, face downward, but

INDIAN NOTES



FIG. 36.—Humerus
of a swan.

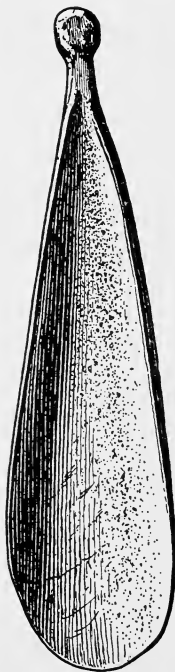


FIG. 37.—Bone
spoon. ($\frac{3}{4}$)



FIG. 38.—Bone har-
poon point. ($\frac{1}{2}$)

INDIAN NOTES

no other bones belonging to this individual were traceable.

The most interesting accompaniments of this burial are the problematical objects—the plummet-shape stones and bannerstones. As all four of the former lay side by side with their grooved ends together, it seems possible that, although it is not known that the Indians of New York practised the custom of hunting birds with bolas, these objects may possibly have been used for such purpose, in much the same manner as the western Eskimo still use perforated stones of similar form. The bannerstones, so far as our knowledge extends, are the first to be found in place with a burial at any site in the Middle Atlantic states or in southern Ontario.

In New York state, according to Mr. Arthur C. Parker,² there seem to have been four stages of Algonkian occupancy, ranging from the archaic to the historic period. A comparative study of the objects recovered from the second grave on Frontenac island assigns this burial to the borderline of the second and third stages of occupancy. Exploration to be conducted later by the Museum will, it is hoped, shed further light on this interesting Algonkian site.

D. A. CADZOW

² Archeological History of New York, *Bull.* 235, 236, *New York State Museum*, pt. 1, Albany, 1920, p. 48.

INDIAN NOTES

ARIKARA UNITS OF MEASURE

WHILE conducting ethnologic studies among the Arikara in 1923, inquiry was made of some of the most intelligent older women in regard to their standards of measure of various kinds. The information was brought out that for such commodities as shelled corn, beans, sunflower seed, split and dried tipsin roots (*Psoralea esculenta*), dried chokecherries, dried Juneberries, etc., the unit was the content of the standard size common work-basket or carrying-basket, called *sátwa*. The measure of content of the standard *sátwa* was called *hūnansádu*. In reckoning quantities of such commodities as those named above they were measured in *hūnansádu* and fractions of the *hūnansádu*; larger quantities in multiples of the *hūnansádu*.

Of dried meat the unit of measure was the pack. A meat pack was the content of a parflèche packing case of the standard size of two cubits in length, one cubit in width, and one cubit deep. Five packs of dried meat made one horse-load. The length of the standard packing case was determined by the distance from shoulder to hip on a horse. In loading a horse two packs were hung at each side and one more was placed on the back, making five to the load.

Of measures of length it seems there were the span, the finger-joint, the handbreadth, the cubit,

INDIAN NOTES

the leg, the arm-reach, the double arm-reach, the ear-corn string, and the pace. The span was the measure from the tip of the extended thumb to the tip of the middle finger. The finger-joint was the measure of the first finger-joint bent over in addition to the span, as in measuring for a moccasin; or for some other purposes there might be required an addition of two finger-joints, or of all three, added to the span. Thus the span was first measured off, and in addition successively, the first, second, and third joints of the middle finger bent over to the knuckle. The handbreadth was the measure from the knuckle of the index finger to the knuckle of the little finger. The leg was the measure from the heel to the bend of the knee along the outer side of the leg. The arm-reach was measured from the middle of the chest, the middle of the sternum bone along the extended arm to the tip of the middle finger. The double arm-reach was the distance from the tip of one middle finger to the tip of the other middle finger along the extended arms and across the chest. The double arm-reach was the standard length of a string of dried squash.

The ear-corn string was the distance from the waist down to the foot and under the sole and back to the waist. This was the standard of measure of ear-corn braided in strings. The measure was

INDIAN NOTES

determined at the time of husking by the husker as she sat at the corn-pile. She turned back the husks from the corn, but did not detach them from the ear. The ears were braided together in a string by the attached husks. When the husker supposed she had made a string of about the proper length, she took the two ends of the corn-string in her hands, and, sitting at her work, she put her foot against the back of the braided string at the middle and stretched out the string of ears. When it was found to be just the length to stretch under the sole of the foot and back again to the waist, it was finished. This also served to test and make the braid firm. And it was found by experience that this measure was the most convenient length of string and weight of corn which a woman could handle in hanging the strings upon the drying rack or in carrying to or from final storage.

MELVIN R. GILMORE

TREE-DWELLER BUNDLE OF THE WAHPETON DAKOTA

A NUMBER of years ago it was the good fortune of the writer to procure for the Museum, through his long-time friend and associate, Rev. Amos Oneroad, a small sacred bundle which had been the property of Mr. Oneroad's grandmother, the

INDIAN NOTES

late Hannah Grayshawl, a Wahpeton woman born about a century ago near Lac qui Parle, Minnesota, who died recently near Sisseton, South Dakota.

The sacred bundle (fig. 39), which was made in 1820, represents a mysterious elf called Čan Hotidan, or "Tree-dweller," and his abode in a hollow stump. With it were included some striped quill-feather shafts used as invitation sticks for feasts given in its honor, and a small packet of medicines.

Early in November of this year the writer obtained for the Museum through Mr. Oneroad a number of Wahpeton specimens, including medicine-bags of loon, otter, mink, and fisher skin, some of them beautifully adorned with dyed porcupine-quills, and another excellent example of the Tree-dweller bundle. These sacred articles formerly belonged to Huhazizi, or Yellow Legs, a prominent member of the Medicine Dance Society among the Wahpeton, who was born on Minnesota river about 1826 and died at Sisseton, South Dakota, in 1906. They were last used on the western shore of Lake Traverse, South Dakota, in July, 1894, in a memorial ceremony in honor of the deceased son of Yellow Legs.

A third but incomplete Wahpeton Tree-dweller bundle, obtained from the well-known trader, Palm, is also in the Museum, and a fourth, the only other of which the writer has any knowledge out-

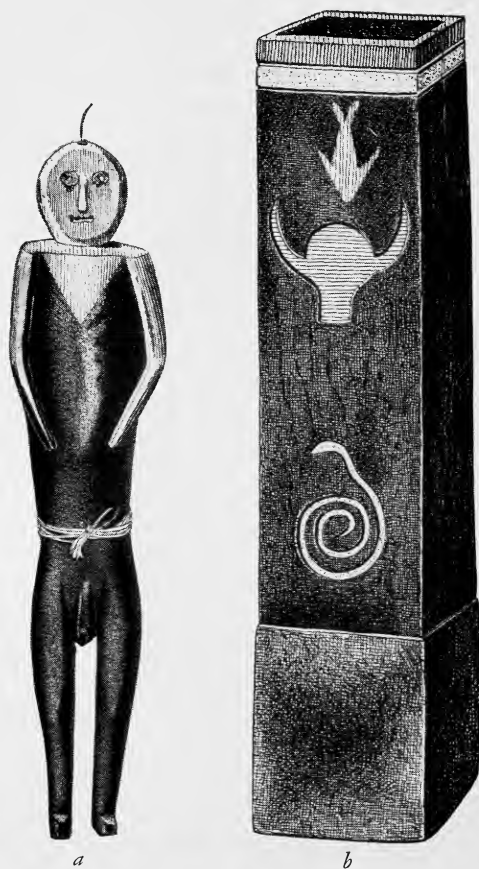


FIG. 39.—The “Tree-dweller” (height, $6\frac{3}{4}$ inches) and his hollow-tree abode (height, 12 inches).

INDIAN NOTES

side of those which may still be in possession of the Indians, is in the Field Museum of Chicago. If the writer's memory is not at fault, the last bundle came from the Wahpeton remnant at Devils lake, North Dakota; at any rate, the type is a well-defined one.

The specimen obtained from Mrs. Hannah Grayshaw is interesting in that the box-like "hollow tree" (fig. 39, *b*), in which the image of the elf (*a*) is contained, bears on its surface several symbolic carvings and paintings. Above, in red, is a conventional figure of the thunderbird, inverted, which recent information says symbolizes the Medicine Lodge Society; beneath is shown the incised and painted head of a buffalo bull, symbolic of courage; and under that, a coiled serpent, incised and colored with yellow ocher. These undoubtedly have reference to various supernatural powers granted the owner by his dream guardians. The "hollow tree" was made from a cottonwood trunk, felled by two young men who had never yet spoken to a woman.

The design on the second "stump" belonging to Yellow Legs (fig. 40) shows again the inverted thunderbird figure, while beneath is incised the patron of the Medicine Dance Society, the Unktehi, or horned underworld panther, a mythical monster, colored in red and blue. It was undoubtedly an

INDIAN NOTES

enormous painted figure of this supposititious creature that adorned the rocky bluffs of the Mississippi at the present Alton, Illinois, in colonial days, and was the subject of various comments by early explorers, who knew it by a corruption of its Algonkian name (Cree, *piyesiw*), calling it the "Piasa".

These Tree-dweller bundles are the visible credentials of power given to their owners in visions by an elf who dwells in a hollow stump, open at the top, and who maintains himself by his

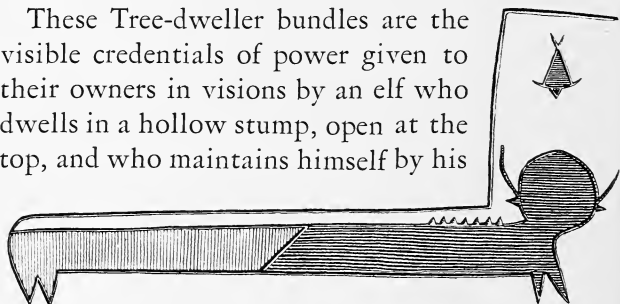


FIG. 40.—The inverted thunderbird and the horned underworld panther.

magic arts. For example, his power extends upward into the sky for an indefinite distance, in the form of an enchanted cylindrical shaft, the size of the opening in which he dwells. When wild-fowl fly over, if they cross this charmed shaft, they are stricken dead, and fall down into the Tree-dweller's den, a prey to the goblin. Even thunderbirds fear and avoid the Tree-dweller's home.

At times the being suddenly confronts some lonely hunter in the forest and fires at him a volley

INDIAN NOTES

of questions in a confusing way. If the hunter forgets himself for an instant, and answers any question in the affirmative, the first person of his immediate family whom he meets on the way back to his lodge must shortly die, because, no matter how innocent the question of the Tree-dweller sounded, it is a distorted request for the life of the first relative met in the manner mentioned.

The Tree-dweller, however, is able to grant mysterious power to mortals, and he is, or rather was, the patron of a certain group of members of the Medicine Dance Society, all of whom used his image and a model of his forest home, instead of, or perhaps in addition to, the animal-skin medicine-bags of other members.¹ The owners of these images are able to make them dance magically during the rites of the society, and are renowned as hunters, for the Tree-dweller is a notable dispenser of luck to followers of the chase. Owners of these bundles were able also to prophesy, and, as the owner of the first example described it, once foretold a successful foray against the Chippewa, saying that the warrior who bore this bundle should count the first coup. An eagle-feather was awarded the image contained in the bundle.

¹ See Skinner, *Medicine Ceremony of the Menomini, Iowa, and Wahpeton Dakota*, *Indian Notes and Monographs*, vol. iv, p. 296, note 48, pl. xxv.

INDIAN NOTES

The nearest parallel to the Tree-dweller bundle of the Wahpeton is found among the Mascoutens, or Potawatomi of the Prairie, in the "Man-of-the-woods," "Wild-man," or "Woods-elf" bundle, which seems to be held principally by members of the Man and Warrior clans or gentes. This bundle lacks the wooden box made in imitation of the tree-stump, but it contains a human figure, or sometimes several figures. It is a most potent hunting and good-luck charm, but does not seem to be connected directly with the Medicine Ceremony. Similar images are found among the Sauk and the Kickapoo, but information respecting their use and history is lacking. Excellent examples were obtained by Mr. M. R. Harrington among both the Sauk and the Fox,² and the Museum possesses a fine specimen found by the writer among the Menomini. The latter tribe, in common with the Sauk, call these wooden images "Solid" or "Rigid" men, in allusion to the material of which they are made. I do not happen to know the Sauk myth of origin, and found the Menomini lacking one, unlike the Potawatomi of the Prairie. On the other hand, the Menomini often speak in a guarded manner of several forest sprites similar to the Prairie

² M. R. Harrington, Sacred Bundles of the Sac and Fox, *Anthropological Publications of the University of Pennsylvania*, vol. iv, no. 2, pp. 227-39, Phila., 1924.

INDIAN NOTES

Potawatomi Wild-man, Man-of-the-woods, or Woods-elf. These are the Sacred-bundle-carrier, the Night-man, or Walker-by-night, and the Wild-man. Some or all of these may be the patrons of the users of these bundles. Solid-men images are likewise found among some bands of the Ojibwa, at least, and I have seen unexplained images of this type from the Winnebago. They are found in the shape of female "Health Guardian" dolls among the Delawares and the Shawnee. They may bear some relationship to the *Misingkw*, or Solid Face Being, the Lenape guardian of game, impersonated by a man wearing a wooden mask at certain ceremonies.³ This would again link them with the stone heads, masks, and maskettes found as far east as the coast of New York and Connecticut. Bone and antler dolls, said to have been used in witchcraft, also formerly occurred among the Seneca Iroquois.

The Tree-dweller image of the Wahpeton Dakota seems, therefore, to form the westernmost extension of a type of magic images that occurs from tidewater New York westward, and which are found most usually among Algonkian tribes, among some one of which it possibly had its origin.

ALANSON SKINNER

³ M. R. Harrington, *Religion and Ceremonies of the Lenape*, *Indian Notes and Monographs*, Misc. no. 19, pp. 32-43.

INDIAN NOTES

PUEBLO SITE NEAR ST. THOMAS, NEVADA

ON the east side of Muddy river, between St. Thomas and Overton, both in Clark county, Nevada, may be seen the ruins of scattered Pueblo habitations, stretching along for a distance of five or six miles. Many of the ruins lie in the valley, more or less buried in sand-dunes and mesquite thickets, but there are also a considerable number on the eroded ridges to the eastward, rising between the lowlands and Mormon mesa.

Walls were made mostly of adobe bricks, or rather lumps, about the shape and size of ordinary loaves of bread, sometimes showing imprints of grass and reeds; these were laid up with adobe mortar, and sometimes interspersed with slabs of stone. They were plastered with adobe. Floors were usually of adobe, but sometimes were paved with flat sandstone fragments. Slabs were sometimes set on edge around the wall inside the room.

Owing to the use of adobe which is disintegrated by exposure, the walls are in bad condition, and are preserved only to a height of more than a few inches when protected by fallen masonry or by wind-blown sand. Still, the rooms can be often plainly traced, for the floors are usually well preserved. On the ridges it is plain that a great deal of erosion has taken place since the site was occu-

INDIAN NOTES

pied, for large parts of buildings have been undermined and have fallen into the cañons.

The houses are rectangular, as a rule, and consist of one, two, three, and sometimes more rooms. One small circular kiva, eight feet in diameter, has been excavated on one of the ridges, provided with a small, circular, bowl-shape fireplace, situated just to the west of the center. Its floor is of adobe, and its walls of stone and adobe. The floor was about two and one-half feet below the present surface. During the excavation more than a bushel of pottery fragments were found, and it is probable that there are restorable vessels in the lot. On the floor lay a number of charred fragments of poles and sticks, possibly the remains of the roof. Among these were carbonized bits of fiber cordage.

About 100 feet to the west, on the same ridge, are the remains of a long building containing a number of rooms, of which, at the present writing, two have been completely and two partially uncovered. One yielded a nearly complete pottery vessel and a number of fragments, possibly restorable; the vessel contained pieces of copper ore, probably gathered to use as green paint, and by its side lay a spoon, or scoop, made from a piece of a broken painted vessel. Another room yielded broken pottery, an arrowhead, and a small oval bone object decorated with zigzag incised lines.

INDIAN NOTES

Taking the pottery of the settlement as a whole, we find plain dark ware predominating; next in abundance comes the corrugated, in several different styles; then black-on-white painted ware, mostly bowls; then black-on-red bowls and vases. A few black-on-yellow sherds of bowls have been found. The patterns on the painted ware are often quite complex, and show considerable taste and skill.

It is noticeable that the corrugated ware is more abundant about the lowland houses, especially near the northern end of the site; it appears but rarely about the upland houses, where painted ware is relatively more abundant. A broken pottery dipper was found near one of the upland ruins.

There is one lowland house-site, however, which has yielded all the pueblo types of pottery above mentioned except the black-on-yellow, and, in addition, the coarse black ware of the Southern Paiute, plus European crockery. All these, however, were picked up on the surface, and merely indicate that the same ground was lived upon by successive peoples up to modern times.

A few arrowpoints of different forms and materials, some manos and metates more or less broken, and a few hammerstones, complete the list of artifacts thus far obtained.

M. R. HARRINGTON

INDIAN NOTES

RECENT ACCESSIONS BY GIFT

From Mrs. Thea Heye:

Two small beaded bags; hair wrapper, beaded decoration.
Oglala Sioux.

Child's legging, beaded decoration. Southern Cheyenne.

Woman's legging, beaded decoration. Santee Sioux.

Woven bead collar. Pima, Arizona.

Gold figure representing a man with a throwing-stick and
spears in his hand; small gold staff with bird on end.
Sogamoso, Colombia.

Flat white stone pendant, incised designs on both sides.
Zuñi, New Mexico.

Large jar, red ware, incised decoration. Presented by Dr.
Luis M. Torres of the La Plata Museum, La Plata, Argentine,
to Mrs. Heye, who presented it to this Museum.

From Mrs. George H. Pepper:

Silver ring with turquoise setting. Navaho, New Mexico.

This ring was collected in 1896 and worn by George H.
Pepper until his death in May, 1924.

From Miss Foulke:

Mountain-goat horn spoon. Haida.

Small birch-bark box decorated with moose-hair. Huron.

Small basket and cover. Makah, Washington.

From Mr. A. Scott Boxall:

Two photographs.

From Mrs. H. W. Crocket:

"Nenquen", by Felix San Martin.

From Alberto Perpetuo:

Puzzle game. Copy of Halembeck, Pedro F., Os "Inhays", e
os seus thesouros, Rio de Janeiro.

From Mr. Arthur Nowakowski:

Photograph and pamphlet.

From Mr. L. Rodolfo C. de Albuquerque:

Map: Alto Purus, by Aug. Hilliges.

From Mr. Raymundo Lopes (the author):

A Civilisacao Lacustre do Brasil.

From Dr. Antonio Carlos Simoens da Silva:

Stone axe. Bahia, Brazil.

Nine pamphlets.

INDIAN NOTES

From Mr. Jesse Knight:

The Captivity of Hans Stade of Hesse.

From Mr. Leolinda de Figueiredo Daltro (the author):

"Da Catechese dos Indios no Brasil."

From Mr. Feliciano Brandao:

Stone pendant. State of Para, Brazil.

From Mr. John H. Taylor:

Fifty-five photographs.

From Mr. H. B. Olson:

Eighteen photographs.

From Mr. W. H. Richardson:

Descriptive poem, "Cateechee of Keeowee."

From Mr. R. L. Beausire:

Revista de Arqueologia, Lima, Peru. vol. 1, parts 1 and 2;
vol. 11, part 1.

Four colored postcards of designs of Peruvian specimens.

From Dr. Isaiah Bowman:

Article by Carl Skottsberg.

From Miss Helen Raley:

Pan American Magazine for July.

From Dr. Samuel K. Frost:

Potsherd; alligator jaw; eight human bones. Captiva island,
Florida.

From Mr. Luis Landini:

Bow; two arrows; mortar jar; bead ring; bead headband.
Pilagá Indians, Argentine.

Fifteen photographs of Pilagá Indians.

Fourteen photographs of Toba Indians.

Four copies of "Los Excitos del Cine."

From Mrs. Harry Bennett:

Twelve arrowpoints. Western Pennsylvania.

From Mr. Thomas McGovern and Mr. Joseph Dunn:

Three potsherds. Leland avenue, Clasons point, New York
City.

From Mrs. F. A. Westervelt:

Two strawberry baskets. Delaware.

Basket. Delaware.

Letter on Texas Indians, 1853.

From Lieut. James H. Moffitt:

Thirty-nine arrowpoints from various places in Rhode
Island, and two arrowpoints from Nantucket island,
Massachusetts.

INDIAN NOTES

From Miss Wa-wa-chaw:

Dress for woman; pair of leggings. Tulare, Tule River reservation, California.

Pair of moccasins; scalp ornament; belt; drum; two eagle-feathers. Sioux.

From Mr. Joseph Keppler:

Burden frame with burden strap attached. Brought from Buffalo Creek reservation to Cattaraugus reservation, New York. Seneca.

From Mr. Carl Schondorf:

Seven arrowpoints. Passaic valley, New Jersey.

From Mr. John Perkins:

Jar with two loop handles and punctate decoration. Ohio River valley, Ohio.

From Mrs. Richard Goodheart:

Globular jar with two necks. Chiriqui, Panama.

From Mr. Robert Mulford:

Two pottery water jars; silver idol or pendant. Peru.

Quirt; needle case; two pipes, bought in Texas; set of metal ornaments; stone war-club with long handle. Sioux.

Broken pestle, stone; two axes; celt; sinker; pitted hammer-stone; smoother; six arrowpoints. Budd's Lake, New Jersey.

Small straw hat; two small burden carriers; toy basket; nut rattle; toy paddle; gourd bowl; gourd drinking cup; bone flute; spindle and whorl; two small cassava presses; large cassava press; toy tray for making cassava; two trays for making cassava; net burden carrier; two storage baskets; drum; neck chain of seeds; neck chain of shells; neck chain of cut peccary-teeth and beetle-wings; wooden club; rubber whip; six bows; two blowguns; twenty-seven long arrows; seven short arrows; toy paddle, single blade; toy paddle, double blade; two paddles, double blades; four paddles, single blades. British Guiana.

Whip of lace-wood; trunk. Argentine.

From Miss Grace Nicholson:

Very long elkhorn spoon. Karok, California.

From Mr. Edward Terhune:

Basket. Delaware, Ulster county, N. Y.

From Mr. E. E. Pease:

Chipped stone knife-blade. Mapleton, Cayuga county, N. Y.

INDIAN NOTES

From Mrs. Paddington, in memory of Leddra Wood Watkins:

Trade clay pipe; two clay pipestem fragments; five pottery pipestem fragments; bone comb; bone awl; ten fragments of red stone showing cutting; two fragments of perforated stone ornament; two square red stone beads; five triangular red stone pendants; three triangular red stone beads with incurving sides; annular red stone ornament; triangular red stone bead; triangular slate pendant; five gun-flints; arrowpoint; bead made from concretion; small flat notched stone, probably fishline sinker; stone ball; three lead bullets; metal button; copper fish-hook; metal buckle; medal; brass ring; silver button; three copper dangles; two cylindrical copper beads; three copper arrowpoints; two fragments of cut sheet-copper; many varieties of glass trade beads; triangular shell beads; Olivella shell bead; circular shell bead; wampum beads. Scipioville, Cayuga county, New York.

From Mr. John Messenger:

149 chipped stone specimens found in one cache. Peconic, Long Island, New York. (See page 87.)

From Mr. James Nicholson:

Ten arrowpoints. Huppaugh, Long Island, New York.

From Mr. J. E. Standley:

Dentalium shell beads; thin shell disc beads; thick shell disc beads; cylindrical white glass beads; triangular haliotis shell pendant. Nez Percé reservation, Lapwai, Idaho.

From Dr. William L. Pyle:

Point of barbed spear-head. Grenadier island, Thousand islands, Jefferson county, N. Y.

From Mrs. James Perry Duce:

Jar, red ware, cream, black and red painted decoration; jar with two loop handles representing human figures, cream ware, red painted decoration; two pottery vessels. Boquita, Panama.

From Mr. D. E. Harrower:

Monolithic axe. Mainland near Bluefields lagoon, Nicaragua. (See page 34.)

From Mr. P. J. Decker:

Large mortar; small mortar; two pestles; stone ball; stone ice pick; collection of arrowpoints. From Lovelock, Nevada.

INDIAN NOTES

From Mr. Owen Cattell:

Two pieces of fabric; toy balsa; toy paddle; toy bow; toy arrow; twelve pottery vessels; wooden spoon; wooden box; wooden top; fragment of comb; two tapering sticks; four corn-cobs. Arica, Chile.

Comb. La Paz, Bolivia.

From Mr. John T. Reid:

Six photographs.

From Mr. G. B. Hillyer:

Fiddle; head-dress; doll; basket; two beaded awl cases; pair of child's beaded moccasins; hair watch chain; hair reata; two beaded pouches; saddle-bag. Chiricahua Apache, Fort Apache, Arizona.

Nine photographs of Arizona views.

From Mrs. Emma Dow:

Seven examples in arithmetic made in pictographs by Louis Firetail and other Sioux boys at the Hope School, Springfield, South Dakota, in 1890. (See page 84.)

From Mr. Howard P. Bullis:

Twenty hammerstones; twenty-three arrowpoints; three chipped implement blanks; fifteen potsherds; three net-sinkers; fragment of celt; limonite paint-cup; hematite rubbing stone; grooved hammer. Canarsie, Kings county, N. Y.

From Miss Helen B. Bennett:

Potsherd; fragment of decorated reed; piece of basketry. Salts Bluff rockshelter, Benton county, Arkansas.

INDIAN NOTES

NOTES

MR. M. R. HARRINGTON spent the summer in conducting excavations in dry caves near Lovelock, Nevada, which revealed many interesting prehistoric objects. It was expected that a deposit of ordinary depth would be found in the caves, but instead it was found to be fourteen feet in depth, built up in layers by successive generations of occupancy. For about six feet deep the caves had been excavated for bat guano, but under this the Indians had deposited, for a depth of eight feet, evidences which were successively covered with grass and tules, so that the guano digging ceased. The articles recovered indicate that the caves were occupied by primitive Indians who were attracted thereto by reason of the proximity of Humboldt lake.

Their chief subsistence was gained from wild plants, rabbits and other small mammals, fish, and ducks, and as digging-sticks were recovered, it may be assumed that agriculture was practised. Basketry, textiles, feather head-dresses, implements of wood, bone, and stone, well made cordage, fish-hooks, fish-nets, entire desiccated fish, rabbit-snares, and decoy ducks made on a tule foundation, are among the objects received by the Museum as a result of Mr. Harrington's excavations. The dead were swathed and wrapped with deerskin, with blankets

INDIAN NOTES

woven of muskrat-skins, and with fish-nets, and were covered with bowl-shape baskets made of coiled willows and elaborately decorated. An adult mummy and the mummy of a child were recovered.

Later Mr. Harrington was a member of a party organized by Governor Scrugham to examine the desert country of southern Nevada, where, in a valley in the Moapa district, the surprising discovery of the remains of a series of pueblos extending in a practically unbroken line for five or six miles in length was made—the westernmost group of pueblo ruins known. These remains were largely covered with sand. Here and there a corner of a stone dwelling jutted out of the drift, or a rectangular house could be seen, while everywhere there were numberless fragments of pottery, some of which bear the characteristic painted decoration in black on gray or in black on red. In the Valley of Fire, in a nearby part of the district, Mr. Harrington observed pictographs and corrugated pottery, but no painted ware. A brief report on the progress of his excavations at this interesting site, dated December 1, is published in this issue.

THROUGH the generosity of Mr. Harmon W. Hendricks the Director has been enabled to procure an archeological collection from Belen valley in the Catamarca province of northwestern Argentine, consisting of pottery with incised and painted

INDIAN NOTES

decoration, and objects of stone, among the latter being a carved ceremonial celt. By the same means a large collection of pottery and wooden utensils from the Province of Jujuy, in the extreme northern part of the same republic, bordering on Bolivia, was obtained. Among the latter, the wooden paint-mixers used for ceremonial purposes are especially noteworthy. Mr. Hendricks has presented to the Museum also a collection of ancient textiles from Bolivia and Peru, and about 2500 feet of motion-picture film taken last April by Mr. Louis Landini, of Buenos Aires, to illustrate the life and customs of the Toba, and especially of the Pilagá, Indians of northern Argentina. Furthermore, Mr. Hendricks has given to the Museum a valuable collection of about six hundred ethnological objects from the Misiones Indians of the department which bears their name in northeastern Argentina, adjoining the Brazilian border. By means of these welcome gifts the South American collections of the Museum have been augmented to a marked degree.

MRS. EMMA DOW has added to the Museum collections several interesting Indian picture-writings in the form of examples in arithmetic, made by two Sioux boys, Louis Firetail and Thomas Firecloud, while pupils at Hope School, Springfield, South Dakota, in 1890. Evidently finding it difficult to set down their examples by means of numbers

INDIAN NOTES

alone, the boys visualized the objects to be added or subtracted by making pictures of them. Thus, in an example in addition, one of the boys drew five pigs in a pen and five more in the act of escaping, which made it easy for him to give the total, represented in figures beneath. In an example in subtraction we find a drawing of seven carts to represent the minuend, and beneath them three others on end for the subtrahend, when the difference was as readily determined as in the case of the example in addition.

THE most recent publications of the Museum are:

Medical Observations on the Zuñi Indians, by Dr. Henry Craig Fleming, which forms Vol. VII, no. 2, of *Contributions from the Museum*, and one of the papers of the Hendricks-Hodge Expedition to Hawikuh.

Declination of the Pars Basilaris in Normal and in Artificially Deformed Skulls, by Dr. Bruno Oettekling, which has appeared as *Indian Notes and Monographs*, Miscellaneous no. 27.

Guide to the Museum—Third Floor, being no. 38 of *Indian Notes and Monographs*. This publication, which completes the three floor guides of the Museum, describes the collections pertaining to Middle America, the West Indies, and South America.

The Gold Treasure of Sigsig, Ecuador, by Marshall H. Saville, issued as no. 3 of the *Leaflets*.

INDIAN NOTES

IN the last issue of *Indian Notes* it was announced that Mr. William Wildschut had finished collecting ethnological material among the Crows and had proceeded to the Blackfeet on a similar quest. Most notable among the numerous utilitarian and ceremonial objects obtained from the Northern Blackfeet of Alberta are a Bear Knife bundle, one of the last in the tribe, a description of which, with an account of its ceremonial use, has been published by Dr. Wissler in his *Ceremonial Bundles of the Blackfoot Indians* (*Anthropological Papers of the American Museum of Natural History*, vol. VII, pt. 2, 1912).

PLANS have been perfected for the publication of Dr. S. K. Lothrop's monograph on The Ceramics of Costa Rica and Nicaragua in the series of *Contributions from the Museum*, but owing to its extent and to the unusually large number of illustrations (many of which will be in color), as well as to the author's absence in South America, it is not likely that the work will be ready for distribution until next summer.

AT a meeting of the Section of Anthropology and Psychology of the New York Academy of Sciences in conjunction with the American Ethnological Society at the American Museum of Natural History on October 27, Prof. Marshall H. Saville presented a report jointly with Prof. Franz Boas on the International Congress of Americanists held at The Hague and at Göteborg last August.

INDIAN NOTES

A REMARKABLE cache of leaf-shape blades has been given to the Museum by Mr. John Messenger, who found it on his farm at Peconic, Long Island. The deposit consists of 107 blades, all finely chipped, and ranging from an inch and a quarter to seven and a quarter inches in length, besides 41 chips of the raw material and a perfect notched arrowpoint.

A COMPREHENSIVE collection of objects illustrating the ethnology of the Paviotso Indians of Nevada, collected by Mr. M. R. Harrington on the conclusion of his excavation of the dry caves to which reference is made elsewhere in this issue, has been received by the Museum.

MRS. THEA HEYE has generously made provision for an archeological expedition to the Argentine in conjunction with the Museo de la Plata. Ancient mounds in the vicinity of the Rio Paraná, in the State of Entre Rios, will be excavated, with Dr. S. K. Lothrop in charge.

AN exceptional elkhorn spoon, fifteen inches in length, from the Karok Indians of Klamath river, northwestern California, has been received by the Museum as a gift from Miss Grace Nicholson, of Pasadena, California.

DR. FRANK G. SPECK has gathered for the Museum among the Nascapi of Labrador a large

INDIAN NOTES

collection, consisting in the main of decorated caribou-skin clothing, embroidered bags, and bone implements.

AN unusually fine, large, oval Pomo basket, received by the Museum as a gift from Mr. Hendricks, will be the subject of an illustrated note to appear in the next issue of *Indian Notes*.

A LARGE wooden mortar with a handle, and the accompanying wooden pestle of L-shape, from the Quinnipiac Indians formerly of Connecticut, have been added to the Museum collections.

AN excellent large basket of the Quichua of Peru has been presented to the Museum by Mr. Archer M. Huntington.

PROF. ING. ARTHUR POSNANSKY, F. R. A. I., of La Paz, president of the Geographical Society of Bolivia and director of the Bolivian National Museum, was a visitor to the Museum in November.

PROF. MARSHALL H. SAVILLE sailed for South America on December 4, to attend the sessions of the Pan American Scientific Congress in Lima as one of the delegates appointed to represent the Government of the United States.

The MUSEUM OF THE AMERICAN
INDIAN, HEYE FOUNDATION, has
issued several series of publica-
tions, a price-list of which will
be sent on application.



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CONTENTS

	<i>Page</i>
Arikara Basketry. Melvin R. Gilmore . . .	89
The Arawana, or Fish Dance, of the Caraja Indians of Matto Grosso, Brazil. Francis Gow-Smith	96
Eccentric Chipped Objects from British Hon- duras. George G. Heye	99
An Unusual Pomo Basket. W. C. Orchard .	102
Archeological Specimens from St. Croix, Virgin Islands. Alanson Skinner	109
Andrew Jackson's Indian Pipes. George G. Heye	116
The Crow Skull Medicine Bundle. William Wildschut	119
Objects from St. Lawrence Island. Donald A. Cadzow	122
Archeological Researches in Nevada . . .	125
Some Seneca Tobacco Customs. Alanson Skinner	127
Recent Accessions by Gift	130
Notes	134

INDIAN NOTES

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No. 2

ARIKARA BASKETRY



BASKETS obtained from the Arikara tribe in 1923 were made especially for the Museum by an old woman commonly known as "Snow," a nickname which came to her from the whites when she was a young woman employed at the Congregational Mission. Her proper tribal name is Štešta-kata, which means "yellow-corn." It may be said that many Arikara personal names are derived from corn, as this agricultural product has been for ages so vitally concerned in all the economic life of the tribe.¹

The first step in the process of basket-making is to get a supply of bark of the large species of willow, the black willow (*Salix nigra* Marsh). The inner bark is the part which is used, after being

¹ In the Arikara terms appearing in this paper, h (Roman in Italic words) is guttural; š = sh; č = ch.

INDIAN NOTES

freed from the rough outer bark. The bast of this willow turns a dull reddish-brown after exposure to the air for a short time. It is the willow bark thus untreated which is used in making the common work-baskets. In making baskets for beauty,



FIG. 41.—Arikara burden-basket. (Width at opening, $16\frac{1}{2}$ inches)

as well as utility, decorative designs were produced by the use of colored strips of black willow bark and of uncolored boxelder (*Acer negundo*) bark. Two colors in the willow bark may be obtained: a dull reddish-brown which the fresh-peeled bark

INDIAN NOTES

takes by exposure to the air, and black which is induced by burying the strips of bark in black mud for forty-eight hours. By the use of willow bark alone and untreated they have brown baskets; by the use of untreated willow bark and boxelder bark, designs in white and brown are obtained; by



FIG. 42.—Arikara burden-basket. (Width at opening, 18 inches)

the use of boxelder bark and mud-treated willow bark they obtain designs in white and black. Štešta-kata uses the black mud of an alkali spring near her house, flowing out from a bed of lignite; but she said that the ordinary black mud of river-bottoms serves as well.

INDIAN NOTES

Before burying the bark in the mud the basket-maker cuts it into narrow strips ready for plaiting. These strips resemble rawhide thongs. The strips of bark must be kept damp and pliable until they are plaited into baskets.



The common work-baskets of the older women were made of willow bark in the plain, dull, reddish-brown color which it took simply by exposure to the air, but small fancy baskets for containing trinkets and small articles of the household were made in ornamental patterns of the white bark of boxelder and the black-dyed willow bark, as also were the baskets used by girls and young women, which is a natural human trait.

For the purpose of dyeing the willow bark, Štešta-kata first cut it into strips of uniform width. She then wound these strips into loose skeins which she took down to the spring and with her hands dug out a bed for them in the soft, black mud, thoroughly mixing the mud and the skeins, and then leaving them imbedded in the mud for forty-eight hours.

In beginning the making of the common work-basket, Štešta-kata chose a willow sapling of the proper size for the rim. This, before peeling, she gently and gradually bent by holding in her hands and pushing against it with her moccasined foot until it was made pliable throughout its length.

INDIAN NOTES

Then she peeled it and hacked off part of the thickness at the butt to equalize the thickness of the entire length. Next she measured the length it was to be by grasping the sapling near each end while she caused it to curve within her extended arms and against her breast. Holding it thus she made it of this length and two handbreadths over. That is the standard diameter of a work-basket at its brim. She marked the length thus found on the sapling and cut it off. The measure of two handbreadths over was to make allowance for the joining of the ends of the sapling for the basket rim. The two ends were laid overlapping and then wound with wet sinew. The sinew shrinks in drying and makes a firm joint. Having so joined the ends together, she tossed the rim hoop into the sun to dry.

Then she chose saplings for the "corner posts" of the basket. Four saplings were required for this purpose. Two were bent in a curve, thus , and two bent in angles, thus . The open tops of these bent saplings were attached to the rim before-mentioned, making a frame on which the strips of bark were plaited. The angled saplings were placed within and at right-angles to the direction of the curved saplings. The bark plaiting at the bottom of the basket is protected from

INDIAN NOTES

touching the ground by the downward curve of two of the saplings, which is entirely outside the plaiting, while the horizontal middle part between the angles made in the other two saplings forms the base of the framework on which the plaiting is done.

The basket-maker measured the "corner posts" by placing her two moccasined feet close together on the sticks which are to be bent at an angle. The ends of the stick were now bent upward along the legs until they touched the knees. Where they touched the knees determined the place where the sticks were to be cut off, and this height measured the depth of the standard size of the work-basket. In the way herein described the top and bottom diameters and the depth of the standard basket were determined. The measure of the cubic content of such a basket was a *hunansádu* and was a standard measure of quantity for certain commodities in commerce.¹

The Arikara generic term for basket is *sádu*; the name of the large basket is *sátwa*, while the small, fancy basket is called *sačiribas*'.

The *sátwa* is usually made from black-willow bark alone, without dyeing; therefore it is of a dull reddish-brown color. The *sačiribas*' is made from white strips of boxelder bark plaited with strips

¹ See *Indian Notes*, vol. II, no. 1, p. 64.

INDIAN NOTES

of black-willow bark which have been dyed black in the mud treatment.

Štešta-kata says there are seven patterns of plaiting produced by combining colored and uncolored bark. These, together with the plain black dyed willow bark, and the plain reddish-brown undyed willow, make nine styles of basket. Perhaps we might add to these a style of plain white boxelder bark also.

The Arikara generic term for willow is *čítabatč*. Black willow is *čítab-nanuh*, 'many-branched willow' (*čítabatč*, 'willow'; *nanuh*, 'many-branched'). *Čítab-nanuh* is the species used for basket-making. Diamond willow (*Salix cordata*) is called *čítab-kusu*, 'big willow' (*čítabatč*, willow; *kusu*, big); though why it is so called, when the black willow is much larger, is not clear. The sand-bar willow, ritually prescribed for use in making the fish-trap, is called *čítabpabatu* (*čítabatč*, willow; *pabatu*, red). They call it "red willow" because of the reddish bark, which, during winter, when the leaves are shed, gives a decided red aspect to the areas of sandbars and banks thickly covered by the growth of this species. The Arikara name of the boxelder is *uháku*.

MELVIN R. GILMORE

INDIAN NOTES

THE ARAWANA, OR FISH DANCE, OF THE CARAJA INDIANS OF MATTO GROSSO, BRAZIL

OF ALL the dances of the Caraja, the *Arawana* is the most important. It takes its name from a fish found in the tributaries of the Amazon, particularly the River Araguaya. This fish, the *arawana* or *iraco*, is thought by the natives to be semi-human and is much venerated.

The dance, a cross between a turkey-step and a foxtrot, accompanied by weird songs, is performed by two Indian men representing the male and the female fish. Both are dressed alike, except that there is hidden in the headgear of the male representative a cluster of threaded nuts from the palm tree, which rattle as the dancers move.

The dress consists of long slender palm-leaves hanging from the waist to the knees like a skirt. A similar kilt arrangement of leaves covers the body from neck to waist. The head-dress is made from palm-leaves closely braided together in the form of a hood, with coarse grass hanging loose at the bottom, obscuring the face. The upper part tapers almost to a point about two feet above the head and is overlaid with beautiful feather mosaics patterned to suggest the *arawana*. Two "horns" made of grass top the headdress. (Fig. 43.)

INDIAN NOTES

These costumes are made and kept guarded in a wigwam at some distance from the village, and at the conclusion of the festivities are destroyed. Covering the entire body as it does, the masquerade completely conceals the identity of the dancer, who must not under any circumstances reveal his identity to the women onlookers.

Women and children are merely spectators and are never permitted to view the dress except when it encases the form of the dancer. The women of the tribe apparently cherish a profound respect for



FIG. 43.—A personator in the Fish Dance.

INDIAN NOTES

this ritual and never seek to penetrate its mysteries. At any rate they seemed to keep at a distance from the sacred wigwam where the men ate and drank in tribute to the sacred fish.

Should a woman, however, so far forget her position as to enter this mysterious hut or should avail herself of an opportunity to look at this mystery dress, she may be punished by death. Executive clemency is granted by the chief, at the request of the women of the tribe, providing she will promise silence and expiate her crime by some appointed work. If she should refuse, she will be ordered to appear at a designated spot in the woods, at a certain height of the sun, where she will find assembled a group of warriors. Failing to comply with their desires, she may be killed and the body thrown into the river. Should she flee to the sacred wigwam, however, this being sanctuary, she goes free at the termination of the festivities to resume her place in society.

Wishing to preserve the costumes as a memento of my visit among them, I asked the chief if I might take them with me. Reluctantly he consented, and ordered his men under cover of darkness to take them in a canoe down the river and await my coming. It was by this means that the costumes ultimately came in possession of the Museum of the American Indian, Heye Foundation.

INDIAN NOTES

In answer to the query of why the Arawana dance was veiled in such secrecy, the chief replied that women are not allowed to know everything, as they talk too much. These Indians believe that the authority and superiority of man must be maintained, and that these festivals impress the woman with her inferiority.

FRANCIS GOW-SMITH

ECCENTRIC CHIPPED OBJECTS FROM BRITISH HONDURAS

THE archeological collections in the Museum from British Honduras have been enriched by a gift from Mr. Harmon W. Hendricks of two of the eccentrically chipped flints that are found in the Maya area of that colony. There were already in the Museum collections several flints of this kind, but they are much smaller and they do not exhibit such fine workmanship as the newly-acquired ones. One of these objects (fig. 44), seven and one-half inches in extreme diameter, is of horse-shoe shape with projections chipped around its outer edge, and closely resembles one found in the neighborhood of San Antonio on the Rio Hondo, at the boundary of Mexico and British Honduras, described and illustrated by Dr. Gann,¹ who reviews the subject of

¹ T. W. F. Gann, *The Maya Indians of Southern Yucatan and Northern British Honduras*, *Bull. 64, Bur. Amer. Ethnol.*, p. 103, fig. 64.

INDIAN NOTES

these eccentric chipped objects from British Honduras, and concludes as follows:

"In reviewing the evidence it would appear that these eccentrically shaped objects were not em-

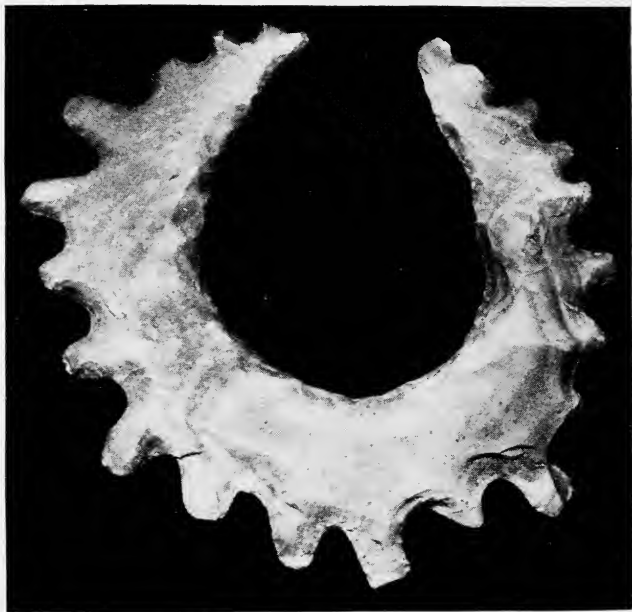


FIG. 44.—Chipped flint from British Honduras. (Maximum diameter, $7\frac{1}{2}$ inches)

ployed either as implements or as weapons, most of them being utterly unsuited in both size and shape for such purposes; moreover, none of them

INDIAN NOTES

show any signs of wear or use. Neither were they used as ornaments, as many of them are too large and heavy, while the more roughly chipped specimens would be quite unadapted for such a purpose. Judging by the fact that five at least of the eleven separate finds were associated with human burials, it seems probable that these were purely ceremonial in use; that they were most frequently, if not invariably, buried with the dead, either on top of the sepulchral mound, in close association with the corpse, or by the side of a memorial stela; and that they were manufactured and used solely for this purpose."

The other specimen illustrated (fig. 45) is serpentine in form and is an excellent

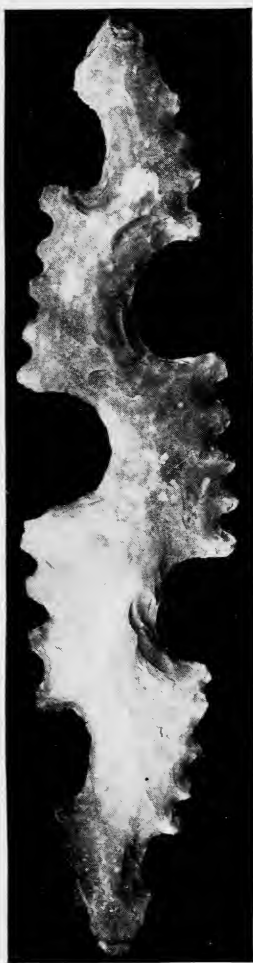


FIG. 45.—Chipped flint of serpentine form.
(Length, $14\frac{3}{8}$ inches)

INDIAN NOTES

example of fine chipping. Its length is fourteen and three-eighths inches. Both of the specimens are of cream-colored flint and were originally in the Rosehill collection of the late Earl of Northesk, which was dispersed by auction in London in July, 1924. Unfortunately the exact locality whence the objects came was not recorded.

GEORGE G. HEYE

AN UNUSUAL POMO BASKET

OWING doubtless to the sedentary character of the Indians of California and to the fact that in many parts of the state suitable materials are readily and abundantly available, the art of basket-making reached a remarkably high state of perfection among a number of the tribes, especially the Pomo, who occupy the greater part of Sonoma, Mendocino, and Lake counties. Baskets were a most important item in the lives of the Indians, who employed them for gathering, preparing, and serving food—not alone dry food, but liquid foods as well, for when thus required the weave was so close as to make the basket impervious. Baskets were used also for a variety of storage purposes, as containers of every description, for hats and other clothing, and indeed for every possible purpose or occasion to which such receptacles could be put.

INDIAN NOTES

Basket cradles are well known, and especially well made and highly decorated baskets were an important adjunct to mortuary customs; therefore it may truthfully be said that baskets were turned to some use or other from the cradle to the grave.

A wide variety of basket weaves was perfected, especially among the Pomo, whose most elaborate baskets are of the coiled weave, consisting of a coiling or wrapping of one or more slender willow stems, known as the foundation, with some kind of split root, the most common being that of the sedge (*Carex barbaræ*). As the willows are thus wrapped they are bent to fit the curve of the basket under construction. The weaving is built up spirally, the wrapping on the upper spiral looping through coils of wrapping immediately beneath, thus locking the whole together in a tight weave, as described in Prof. O. T. Mason's book on Aboriginal American Basketry.

The materials above mentioned are white, or nearly so. Designs are introduced by the use of a dark, or perhaps black, material, and further ornamentation is accomplished by the addition of beads, feathers, and sometimes pendants of haliotis shell. The beads in common use were discoidal in form and made of shell, but glass beads also were employed. Sometimes the beads were threaded on the coiling as the manufacture of the basket pro-

INDIAN NOTES

gressed, and occasionally were fastened to the surface by a thread after completion. This addition to the decoration usually emphasized the design which had been wrought, as is shown in our illustration (fig. 46), although in this case some of the beads are missing. It will be seen that the beads are fastened to the design in black, and that only the upper part of the basket is so treated.

Colored feathers from a wide variety of birds are also used in the ornamentation of basketry, the most prominent of which are the plumes of the California quail, perhaps because they are so woven into the basket that they stand erect. This particular form of decoration, however, is not very practical when a basket is made for continual use, as the standing plumes are easily broken or bent out of position.

Feathers from the bodies of the bluebird, duck, lark, oriole, redwing blackbird, flicker, and the red crest of the woodpecker, are so interwoven that they lay flat as in nature, and sometimes so thickly that they entirely conceal the weave of the basket. This form of decoration, however, is employed only when the basket is to be used at some important function, as a gift, for the storage of ceremonial objects, or in connection with mortuary rites.

A very remarkable example of Pomo coiled bas-

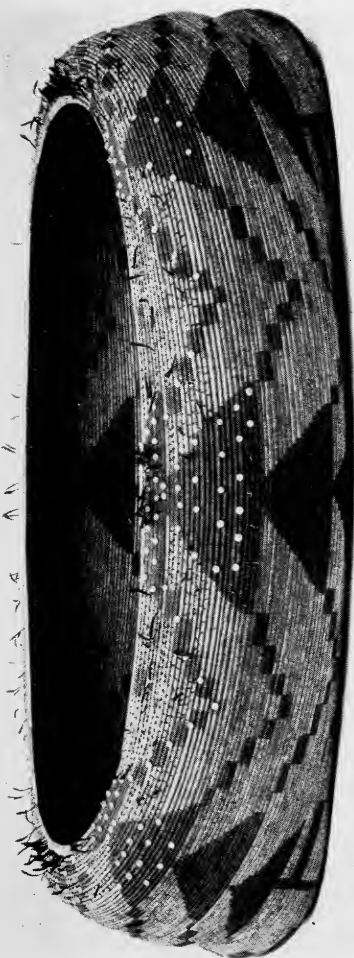


FIG. 46.—Canoe-shape basket of the Pomo. (Length, 3 feet 7 inches)

INDIAN NOTES

ketry, by reason of its size, its elaborate decoration, and fine weave, has recently been added to the Museum's collection by the gift of Mr. Harmon W. Hendricks. This basket was made for the storage of sacred objects used on ceremonial occasions, such as costume and ornaments; it is elliptical in shape, measures three feet seven inches long by nearly two feet wide and about eleven inches deep, and being of such great size, it represents a vast amount of labor on the part of its maker. The patterns woven in this receptacle, as shown in the illustrations, are embellished with feathers and discoidal shell beads. That the basket has been subjected to long use is evidenced by the worn and broken feathers.

In his monograph on their basketry Dr. Barrett¹ describes the designs used by the Pomo. According to some informants the triangular patterns represent "sharp points" or "arrowpoints," while others interpret them as "butterflies" or "spotted," according to the spacing. When superimposed, as most of them are on the basket under discussion, the triangles are said by some to represent "turtle-back" or "turtle-neck;" others have called them the "pine tree" design. The rectangles joined at their diagonally opposite corners are usually called


¹ S. A. Barrett, Pomo Indian Basketry, *University of California Pub. Amer. Archaeol. and Ethnol.* vol. 7, no. 3, 1908.

INDIAN NOTES

"deer-back," although some informants have named them "potato-forehead." To quote Dr. Barrett:

"Exactly what is meant by potato-forehead is not certain, for the Indians themselves differ in their explanations of the term. Some say it refers to a protuberance on the upper surface of a corm and of some bulbs also, while others maintain that it refers to a protuberance on the bottom, instead of on the top. By potato is meant what is called Indian potatoes, the bulbs, tubers, and corms of the many species of bulbous and tuberous rooted plants which grow in the Pomo country."

The U-shape lines at the two ends of the basket (fig. 47) are curved because they necessarily followed the coiling weave of the basket. The intent was to represent straight lines, which are symbols of the "striped water snake."

The two groups of six V-shape figures are said to be a modified representation of the "sunfish rib," which in this form occurs neither frequently nor prominently. A more realistic form of this design has occurred where the V's are placed one within the other . It will be observed that the "sunfish rib" is on the bottom of the basket, in a decidedly inconspicuous place when the basket was in use. Just visible at each end of the

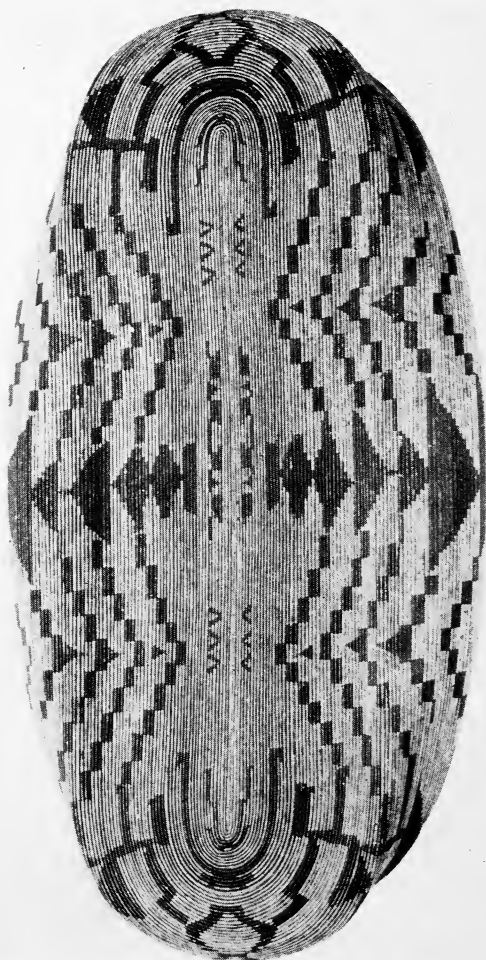


FIG. 47.—Bottom of the Pomo basket, showing elaborate design.

INDIAN NOTES

basket is a kind of hollow rectangular figure which, if projected on a flat surface, would be a diamond-shape design sometimes spoken of as "acorn head" or "acorn cup."

W. C. ORCHARD

ARCHEOLOGICAL SPECIMENS FROM ST. CROIX, VIRGIN ISLANDS

FROM Mrs. H. C. Hark, an enthusiastic amateur archeologist long resident on the island of St. Croix, Virgin Islands, the Museum has recently procured a small but unusually interesting collection of specimens, obtained for the greater part from kitchenmiddens on her estate or in its vicinity. It is a matter of good fortune that this collection is rich in ceremonial articles of shell and stone which were not hitherto well represented in the Museum. For example, there are seven three-pointed objects, or zemis, whereas only one example of this class from St. Croix was already on exhibition.

These zemis, all of which are small, the largest not exceeding three and three-eighths inches in length, are figured in fig. 48. Three examples (*a-c*) are carved of shell, while one (*g*) is ground out of coral.

Although all the zemis in the collection are of

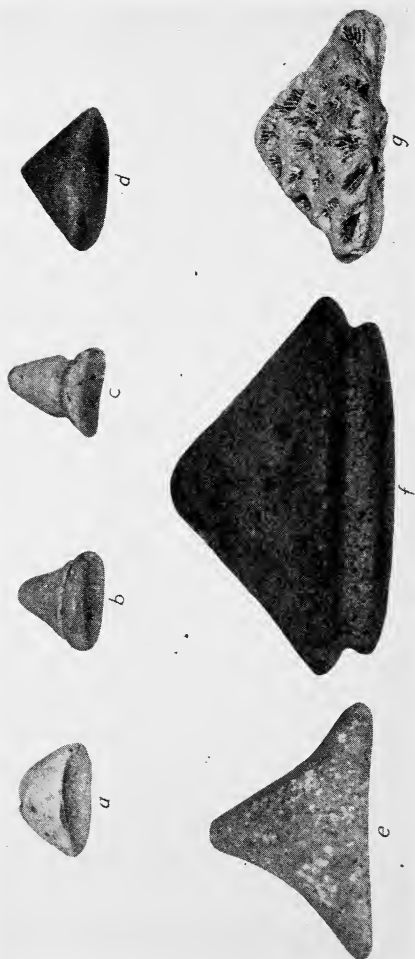


FIG. 48.—Zemis from St. Croix. (Horizontal diameter of *a-d*, $\frac{7}{8}$ to $1\frac{5}{8}$ inch; of *e-g*, $2\frac{1}{4}$ to $3\frac{3}{8}$ inches)

INDIAN NOTES

the typical mammiform class, and undoubtedly pertain to the Taino-Arawak culture, as defined by Mr. M. R. Harrington in his monograph, "Cuba Before Columbus," published by the Museum, not all the stone implements found on St. Croix can be safely classified as belonging to this group. Of the stone celts, however, nearly all are the usual Taino highly polished petaloid variety. They are proportionately very numerous in the Hark collection, and it is interesting to note that fully fifty percent of them are badly broken. Others have been degraded for use as hammerstones. One notched axe, different from all the rest, resembles the cruder examples from St. Vincent in our collections, and may well be of Carib origin. As for the shell celts and gouges, some of which are represented, it is possible that they may be attributable to the Ciboney.

Clearly Tainoan are the stone and shell objects illustrated in fig. 49. In *a* is shown a greenstone artifact which seems to be the hook from a throwing-stick, or atlatl, used to propel darts or javelins, the butt or proximal end of the weapon being arrested and held by the notch of the object, which is set in the end of the atlatl in such manner as to project and catch the dart.

The circular spool-shape ornament (*d*) is probably an ear-plug, or button for insertion in the lobe.

INDIAN NOTES

It is made of a translucent substance resembling alabaster. The other objects are a disc-shaped shell bead with incised decoration and a central perforation (*b*), a long narrow bit of shell which may be a piece of inlay, with short transverse lines scratched upon it (*c*), and a small incised shell pendant (*e*). In the collection there are numerous shell beads of

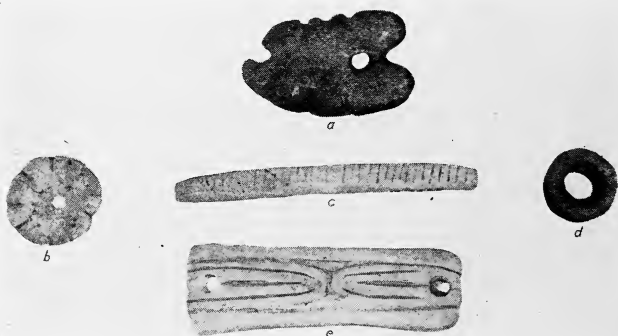


FIG. 49.—Stone and shell objects from St. Croix. (Diameter of *d*, $\frac{11}{16}$ inch; length of *c*, 3 inches)

the disc variety, some bearing incised ornament, like that shown in the figure; some are made of olive shells, some perforated through the long axes, and others with notches for suspension rubbed into the broader end of the shell.

The collection includes several hundred fragments of pottery and a few restorable vessels, with

INDIAN NOTES

one entire jar of simple form. Most of the vessels are plain, the shape of the utensils themselves producing the esthetic effect. Some examples are of a fine yellowish ware with very thin sides, but most of them are made of coarse red clay, not infrequently covered with a bright crimson slip. A few of these colored vessels are further adorned with



FIG. 50.—Potsherd from St. Croix, showing painted decoration. (Length, $5\frac{1}{4}$ inches)

geometric designs in white or yellowish paint, as shown in the sherd displayed in fig. 50. Still others bear incised decoration, but these are rare.

In fig. 51 is shown a coarse platter of red ware, the conventionalized head of a tortoise projecting from one end and the tail from the other. It measures eight and one-half inches in length.

INDIAN NOTES

A somewhat larger and much better made tray-like bowl with raised ends and covered with a crimson slip is shown in fig. 52. One handle represents a frog's head in crude bas-relief. This vessel is ten and three-quarters inches in length.

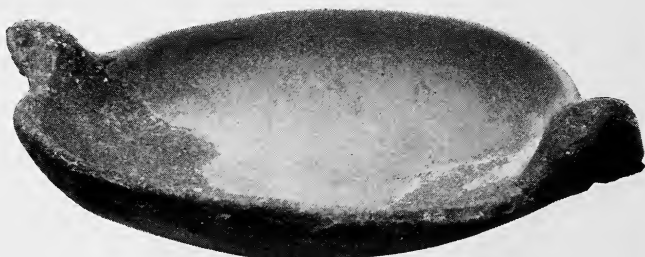


FIG. 51.—Platter ornamented with a tortoise head (restored). (Length, $8\frac{1}{2}$ inches)



FIG. 52.—Tray-shape pottery vessel. (Length, $10\frac{3}{4}$ inches)

Another interesting and seemingly unique specimen is the small stand of earthenware shown in fig. 53. The stand appears to have originally been furnished with three legs, one of which is now

INDIAN NOTES

missing. In its present condition it measures five inches across its longest remaining diameter.

Potsherds and vessels of the types here figured and described seem to belong to the ware made by the Carib; but the Taino, of Arawak stock, are also



FIG. 53.—Earthenware stand. (Maximum diameter, 5 inches.)

represented in the Hark collection by a number of vessel handles in the form of grotesque heads and faces of the familiar types found in Cuba, Porto Rico, Santo Domingo, and Haiti.

ALANSON SKINNER

INDIAN NOTES

ANDREW JACKSON'S INDIAN PIPES

THE MUSEUM has purchased, from Mr. W. C. Wyman, four interesting pipes, the history of which, as furnished by Mr. Wyman, is as follows:

Early in 1922 there was an exhibition of the personal effects of President Andrew Jackson in the Southwest Museum at Los Angeles, California, which were lent by Andrew Jackson, 4th, then living in that city. The objects, described as having come from "The Hermitage," the home of President Jackson near Nashville, included plate, china, furniture, documents, etc., as well as the four pipes herein illustrated, and it is said that many of the effects had been in use in the White House at Washington during Jackson's presidency, 1829-1837. Mr. Wyman purchased the pipes from the Mr. Jackson above mentioned, grandson of the adopted son of the President. President Jackson had earlier been a judge at Jonesboro, Tennessee, adjacent to which are many prehistoric village-sites that have yielded some remarkable specimens, hence it is quite possible that some of his neighbors, as a mark of their esteem, presented the pipes to him.

Fig. 54 shows a pipe of black slate with the bowl carved in a characteristic way to represent a human head. On the stem facing the bowl is a seated human figure with arms clasped across its knees, but unfortunately the head of the figure is missing.

INDIAN NOTES

The length of this pipe is eight and one-quarter inches.



FIG. 54.—Pipe of black slate from Tennessee. (Length, $8\frac{1}{4}$ inches)



FIG. 55.—Pipe of dark-green steatite from Tennessee. (Length, $8\frac{1}{2}$ inches)

The finest pipe of the four (fig. 55), of highly polished, dark-green steatite, eight and one-half

INDIAN NOTES

inches long, represents a bird, probably an owl, the head carved on the upturned end. The eyes are large circles in which originally there may possibly have been inlays. The ears are typically owl-like, as is also the beak.



FIG. 56.—(Length, 3 inches)

FIG. 57.—(Length, $4\frac{1}{8}$ inches)

Pipes of greenish-black steatite from Tennessee.

The other two pipes (figs. 56, 57), of greenish-black steatite, are of the L-shape type. The first of these, three inches in length, is finely polished and rounded; the other, four and one-eighth inches long, is more massive, and is also well finished, although not so highly polished as the other.

GEORGE G. HEYE

INDIAN NOTES

THE CROW SKULL MEDICINE BUNDLE

ONE of the most sacred objects obtained during my recent studies among the Crow Indians is the skull medicine bundle (fig. 58). From time immemorial the Crows, like most Plains Indians, deposited their dead in the branches of trees, on scaffolds, or in rockshelters. A relative would visit the dead in such a place and pray to the spirit of the departed. Time and the elements gradually disintegrated the wrappings with which the body was enshrouded, thus exposing the bones. When this happened a near relative would sometimes take the skull home, wrap it carefully, and preserve it, thereby partially fulfilling the vow of the departed.

It also happened that the possessor of such a skull would receive in his or her dream a vision as to the time the skull would appear and resume the living form of the deceased. In this dream the spirit informed the possessor of a certain ceremony attending the opening of the bundle. In this case the skull became a medicine bundle, and could be used to inform the owner of many things. The use of a bundle depended on the instructions received in the dream.

A relative might also take possession of a skull, hoping that it would give him or her a desired vision and thus become this individual's medicine.



FIG. 58.—Crow Skull Medicine Bundle

INDIAN NOTES

This was done especially if, while living, the departed had ghosts or spirits as his medicine. With the same purpose in view, the skull of a great medicine-man might be preserved.

One of the best-known skull medicine bundles was that containing the skull of Braided-Tail, one of the most famous medicine-men in the history of the Crow tribe. As this skull was handed down for five or six generations, Braided-Tail's death must have occurred at least one hundred and fifty years ago. This worthy's skull was used in the tribe for various purposes, and it became a true oracle to its successive possessors. In time of war, after due consultation attended by the necessary ceremony consisting of songs and the burning of incense, the skull would "inform" the possessor of the proximity of an enemy; it would tell which part of the country would be safe from unexpected attack; when a battle was unavoidable the bundle would give information as to the number of men destined to be killed, and the exact situation of the battleground; in time of famine it would inform the possessor of the whereabouts of game; a sick person could consult the skull and be told by it whether he or she was going to die or whether the patient should make the necessary expenditure for the consultation of a doctor; and it was consulted also for the recovery of lost or stolen property.

INDIAN NOTES

Indeed the information given through consultation with the skull was never known to fail; thus in time it came to be known as one of the most sacred and most potent bundles among the Crows.

WILLIAM WILDSCHUT

OBJECTS FROM ST. LAWRENCE ISLAND

ON THE north shore of St. Lawrence island, in Bering sea, are the sites of two abandoned Eskimo villages called by the natives Kokuluk (Kukuliak) and Sevonga. According to tradition the inhabitants were destroyed by pestilence, for which reason the sites of the settlements have been tabu to the Eskimo.

Mr. A. E. Thompson, who lived two years on St. Lawrence island, has explored these village-sites and two others, one at Southeast cape and one on Ponuk island, and the collection which he gathered has been acquired by the Museum. Also collected by Mr. Thompson are a few fine ethnological pieces from the Eskimo who still live at the town of Gambell, on the northwest coast of St. Lawrence island, which supplement the Liebes and Bernard gatherings previously mentioned in *Indian Notes*, and give the Museum an unusually good representation of the material culture of the Eiwhuelit division of Yuit Eskimo.

INDIAN NOTES

Among the objects especially worthy of mention are two wooden bows and several wooden bowls, in a perfect state of preservation, from Kokuluk; and of almost equal interest is a wooden box, taken from the frozen ground at the deserted village, containing toys made of walrus ivory, representing a kayak, a sledge, various birds, mammals, and



FIG. 59



FIG. 60



FIG. 61

Ivory carvings from St. Lawrence Island. (3)

human figures. The Yuit, to whom Mr. Thompson showed the box and its contents, all said that it probably belonged to a small child who had died and whose parents had buried them as a sacrifice.

The ivory carvings from Kokuluk are examples of the highest art of this kind in the western Arctic. In fig. 59 is represented a mother holding a crying

INDIAN NOTES

babe, and in fig. 60 is shown a fisherman bringing home his catch. Fig. 61 illustrates a carving not so finely executed as the others, but it is perhaps the most interesting, as it represents a Yuit with seal-

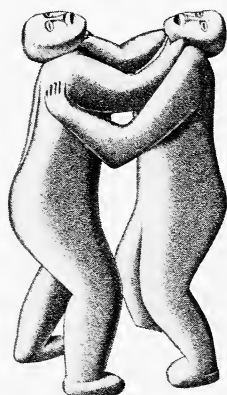


FIG. 62.—Ivory carving representing wrestlers. ($\frac{2}{3}$)

skin armor folded about his body. In their battles in ancient times the Yuit warriors would open that part of the armor which fitted over the head and shoulders, discharge their arrows at the enemy, and rewrap themselves in the skin. The images of two wrestlers carved in ivory (fig. 62) are explained as follows in Mr. Thompson's notes:

“Many years ago the Siberians came to St. Lawrence island and made war on the natives, taking the women captives and plundering their houses. In order to keep up their strength so as to meet the foe, the men wrestled, raced, and carried heavy rocks. Today the Siberians still come to St. Lawrence, not to make war on the natives, however, but to meet them in friendly field sports. Preparations are made for these events, early in the spring, when the sun begins to get warm. The men

INDIAN NOTES

wrestle, and run to find out which ones have the greatest skill and endurance to meet the best men of their one-time enemy."

D. A. CADZOW

ARCHEOLOGICAL RESEARCHES IN NEVADA

IN addition to the pre-Pueblo ruins near St. Thomas, Nevada, concerning which a brief report appeared in the last issue of *Indian Notes*, Mr. M. R. Harrington has discovered various other sites of early aboriginal occupancy on both sides of Muddy river, one of which, three miles north of Overton, seems to be even more ancient than that of Pueblo Grande de Nevada, to which Mr. Harrington has devoted chief attention from the beginning. Both the pottery and the buildings at this older site are more archaic in appearance, many of the dwellings being mere dugouts in the hillside, floored and plastered with adobe. By reason of the numerous burials here, Mr. Harrington has designated this "Burial Hill." Another site north of Overton is especially notable by reason of a practically solid block of buildings, traced by the foundations, covering an area approximating 100 by 300 feet. Mr. Harrington has received reports also of small pueblo ruins scattered along the Virgin river from Mesquite to its junction with the Colorado.

Of great interest is Salt Cave and Salt Mine on

INDIAN NOTES

the Virgin, seven or eight miles south of Pueblo Grande, where is found an enormous deposit of rocksalt in which are sundry caves as well as traces of ancient salt-mining operations, including the old pits and numerous stone hammers. One of the caves, in the face of a bluff of solid salt, contains a considerable deposit of ancient dry camp refuse, and there is also a cavern with a large chamber, reached by a tortuous tunnel, that contains a heavy deposit of salty dust mixed with bat guano. This deposit has yielded to test-holes various fiber cords, pieces of torches, fragments of wooden hammer handles, and the like, thus giving promise of important results. Numerous circles and ovals pecked in the solid salt embellish the walls of the cavern.

Tests in a dry cavern known as Gypsum Cave, about twenty miles from Las Vegas and fifty miles from Pueblo Grande, have revealed firesticks, spear-shafts, and strings, of early prehistoric origin, all well preserved. It seems quite possible that this cave was one of the sources of supply of gypsum in the form of selenite so generally used by the Pueblos of New Mexico for windows before the introduction of glass, as well as for fashioning into various ornaments.

A dry cave has been reported near Moapa, about thirty-five miles from Pueblo Grande, and there are

INDIAN NOTES

a number of small dry caves near Indian Springs, about forty miles west of Las Vegas. Tests here show that many of these caves contain well-preserved remains of ancient basketry and other artifacts. Other dry caves and rockshelters are said to be found in this region.

Again, in the Forty-mile Canyon district, thirty to forty miles east of Beatty, some prospectors sent out by Governor Scrugham report ruined buildings, rockshelters showing ancient occupancy, and abundant corrugated pottery in the vicinity of extinct springs about thirty miles from living water. This region is an uninhabited desert, accessible only by means of a pack-train. If these remains prove to be Pueblo, or pre-Pueblo, the westerly limit of the Pueblo culture will extend across Nevada nearly to the California border.

SOME SENECA TOBACCO CUSTOMS

WHILE among the Seneca Iroquois of the Allegany reservation, New York, during and directly after the annual midwinter festival early in February, the writer endeavored to obtain seeds of aboriginal products, such as corn, beans, squashes, gourds, and sunflowers, and also of the native tobacco, *Nicotiana rustica*, for the proposed garden of aboriginal vegetal products to be es-

INDIAN NOTES

tablished on the Museum property near Pelham Bay Park. Although last year was a bad one for Indian crops, he was quite successful in bringing back sample seeds, and as he was favored with considerable information, especially about tobacco, which he believes has not before been published, some of the data are presented here.

It could not be learned from any of the Seneca who were questioned that this tribe ever cultivated tobacco, as do the Algonkian tribes of the Middle West; instead it was claimed that the seeds were merely cast out in the dooryard to survive or perish, as the case might be.

The plant was allowed to grow, if it so happened, until the leaves were twice as large as the space enclosed between the outstretched and joined thumbs and forefingers, and then, in order to insure its virtue, it was plucked only when a thunderstorm was approaching; otherwise the tobacco was thought to be of inferior quality and not nearly so acceptable to the Powers. Improperly gathered tobacco, when cast on the fire, burns immediately, and the smoke incense rises straight to the sky, whereas, when picked at the approach of a thunderstorm the tobacco writhes and wriggles when cast upon the coals, as though it were alive, and the smoke swirls upward with its message.

INDIAN NOTES

Once cut, the leaves are hung in the shade to dry. The tobacco is considered an indispensable adjunct to all rites and ceremonies, and is valued much more highly than the commercial product, a teaspoonful being prized as highly as a "store" plug. It was much used for bets in gambling during the ceremonial games with bowl and dice in the Long House, and in the homes of the "pagans" during the midwinter ceremonies. A few pinches or a teaspoonful carefully wrapped in oblong paper packets and tied with string are each considered equivalent in value to ten-cent wagers by the officers employed in "matching up" the bets.

Tobacco is commonly sacrificed by casting it upon the fire and praying as the incense ascends; it is also smoked in pipes passed to the members of the Little Waters Medicine Society, or *Niga Niga'a*, as an act of prayer, and in tiny packages it is attached to falsefaces to pacify them and obtain their goodwill.

Tobacco is used also in practising sorcery. A member of the Falseface Society, by burning tobacco and pronouncing the proper incantation, is believed to be able to cause a person's mouth to draw up like the mouths of some of the more distorted types of Seneca masks. Some people are said to cause lightning to strike when and

INDIAN NOTES

where they will by throwing tobacco on the flames and requesting Heno, the Thunder Being, to dart his bolts where they desire. A story is told of a Seneca who, having no faith in such power, mockingly threw tobacco in his stove, calling on the Thunder to strike his own house, with the result that it promptly did so, and his home was destroyed.

If a man's wife runs away with another man, or deserts him, he may fill his pipe with native tobacco, puff the smoke in the direction in which he thinks she may have gone, and she will be impelled to return to him before his pipe is smoked out, or very shortly after.

ALANSON SKINNER

RECENT ACCESSIONS BY GIFT

From Mr. William Warfield:

Six photographs.

From Dr. William Thornton Parker:

Copy of "Presidents of the United States Who Were Indian War Veterans, United States Army," by William Thornton Parker, M. D.

From Mr. W. Langmann:

Three pottery jars. Acoma.

Pottery mug. Southwestern Colorado.

Tobacco pouch; beaded pouch; two pairs of doll moccasins. Ojibwa.

Doll; necklace; knife sheath; beaded pouch; pair of moccasins. Sioux.

INDIAN NOTES

Miniature cradle. White Mountain Apache.

Beaded pouch; three pairs of moccasins; pair of leggings;
bead necklace. Shoshone.

Leather bag. Algerian.

Two horsehair whips. Mexican.

Two sea-shells.

From Rev. E. Ashley:

The following publications:

Okadakiciye Wakan Kin. Wiwicawangapi. A Catechism
in Dakota and English.

English and Dakota Service Book, from the Book of Com-
mon Prayer.

Dakota Wowapi Wakan, the Holy Bible in the Language
of the Dakotas.

The Niobrara Course, first year: Niobrara Woonspe
Ookuwa Kin.

From Mrs. Thea Heye:

Skin dresser. Zuñi, New Mexico.

Small ivory carving representing a man in sled being pulled
by a reindeer. Eskimo, Point Barrow, Alaska.

From Mr. David T. Abercrombie:

Twenty-three pottery specimens from Colombia and Peru.

From Mrs. Freeland Pulver:

Leg from pottery vessel, representing an animal's head.
Nicaragua.

From Mr. William B. McKinlay:

Six arrows, red and blue painted decoration. Yuma, Arizona.

From Mr. F. S. Dellenbaugh:

Forty-nine photographs of views in Arizona and New
Mexico, taken about 1890 by the Wetherell Brothers.

From Dr. Alfred G. Langmann:

Stone pipe bowl. Hopi, Arizona.

Buffalo robe.

Grooved axe.

INDIAN NOTES

From Mr. Ernest Ingersoll:

Book of newspaper clippings pertaining to the Indians.

From Mrs. Harriet P. Eaton:

Four cross-stitch copies of sand paintings.

Notes and manuscript of Mrs. Harriet P. Eaton regarding
North American Indians.

From the Hispanic Society of America:

Copy of Prince, "Stone Idols of New Mexico," Santa Fe,
1896

From Dr. Joseph K. Dixon:

Photograph: "The Last Outpost."

From Dr. W. R. Blackie:

Two baskets. Cherokee.

From Mr. Roderick D. Macalpine:

Pestle. Connecticut.

Pestle; axe; forty-one arrow, spear, and knife blades. Kent
county, Delaware.

From Mr. Charles W. Mead:

Copy of "Old Civilizations of Inca Land," by Charles W.
Mead.

From Dr. E. Fox:

Three X-ray negatives of beads and a basket.

From Lieut. G. T. Emmons:

Copy of the National Geographic Magazine, vol. III, May,
1891. An Expedition to Mount St. Elias, Alaska, by
Israel C. Russell.

Copy of the Report on Production of Domestic Reindeer in
Alaska, by Sheldon Jackson. 1904.

From Mr. Edward Kurtz:

Axe; four arrowpoints. Worcester county, Maryland.

From Mr. B. T. B. Hyde:

Two negatives.

INDIAN NOTES

From Dr. A. V. Kidder:

Bannerstone, collected in 1903 by H. I. Robinson of Boston.
Nacoochee valley, White county, Georgia.

From Mr. Clarence B. Moore:

Small galena plummet; small gold inlay; long shell pendant
made from columella. Mound key, Lee county, Florida.

From the Museum of the University of Michigan:

Jar, brown ware, incised decoration. Cass county, Michigan.

From Mrs. Walter M. James:

Pipe; tomahawk; warclub; baby-carrier; quilled bag; rattle;
beaded awl case; Sun-dance whistle; two horn spoons;
horn spoon and fork; moccasin for child; bead ornament;
deer-bone game; pair of beaded ornaments; dentalium
shell necklace; two pairs of dentalium shell ear-ornaments.
North Dakota.

Scoria metate; grinding stone. Nicaragua.

Belt. Rosebud reservation, South Dakota.

Fifty potsherds; broken stone point; glass bead. State of
Grenada, Nicaragua.

From Miss Genevieve Brandt:

Basket. Yakutat, Alaska.

From Mrs. C. C. King:

Pipe; string of beads; small leather bag; celt; eight pot-
sherds; small black pitcher; two hundred thirty-one
arrowpoints.

Plummet-shape stone. California.

INDIAN NOTES

NOTES

DR. MELVIN R. GILMORE returned to the Museum on January 3, after spending the summer and fall in ethnological work among the Arikara of North Dakota, the Omaha, the Winnebago, and the Santee Dakota in Nebraska, and the Pawnee in Oklahoma. From each of these tribes he obtained some rare objects and information concerning their origin and use. Dr. Gilmore's principal work with the Arikara was the recording of some of the ancient ritualistic ceremonies of that tribe, used in the seasonal celebration of their agricultural festivals, for they have been cultivators of the soil since distant prehistoric time. The ancestors of the Arikara and of the Pawnee, both of the same racial stock, were probably the first agriculturists who ever tilled the ground in all the Missouri river drainage basin. In the recording of these ceremonies Dr. Gilmore was aided by Mr. E. F. Coffin of the Museum staff, who was unsparing in care and labor with the motion-picture camera in preserving pictorial records of the action in these ceremonies, to make the expedition a success. Dr. Hartley Burr Alexander, of the University of Nebraska, and Mr. George F. Will, of Bismarck, North Dakota, also gave most useful aid in recording information and observations on the ceremonies. A full complement of seed stock of

INDIAN NOTES

the different varieties of corn, beans, squashes, and pumpkins and gourds which remain of all the varieties cultivated in old times by the Pawnee, was obtained from that tribe, from whom also was procured, together with other rare relics, a sacred bundle. This particular bundle is distinguished in being one of only two of its class now in existence.

In this field campaign Dr. Gilmore emphasized the quest of material and information to augment the ethnobotanical collections of the Museum.

PROF. MARSHALL H. SAVILLE spent the months of December, January, and part of February in Peru and Mexico, having been appointed one of the official delegates of the United States Government to the Third Pan American Scientific Congress, which convened at Lima from December 20 to January 6. As representative of the section of history and anthropology he presented a resolution, which was passed by the Congress at its final session, having for its object the founding of an International School of American Archeology at Cuzco, the ancient seat of the so-called Inca Empire. Professor Saville was made an Honorary Doctor in the Faculty of Sciences of the University of San Marcos of Lima, the first university founded in the New World. He was also elected an honorary member of the Instituto Histórico del Peru and the Sociedad Geográfica de Lima.

INDIAN NOTES

An exchange was effected in behalf of the Museum of the American Indian, Heye Foundation, with the Museum of the University of San Marcos, through which the former is to receive an important archeological collection from the region of Chavin, explored by Dr. Julio Tello. As this region is one of the most important and little-known areas of Peru, the material will be of great value in connection with the Museum's extensive collections from Ecuador.

In Mexico Professor Saville visited the various sites in the Valley of Mexico recently explored under the direction of Dr. Manuel Gamio. He also obtained much information in regard to woodcarving by the ancient Mexicans, for use in a study of the subject the results of which are soon to be published.

MR. ALANSON SKINNER, of the Museum staff, has just returned from a brief sojourn among the Seneca Indians of the Allegany reservation in southwestern New York, where he attended the "New Year" celebration and obtained a number of unusual old specimens for the Museum's collection. Commencing January 29, and continuing through nine consecutive days, the ceremonies included the annual rites of Thanksgiving, which once were connected with the now obsolete sacrifice of the white

INDIAN NOTES

dog, ceremonial gambling with the wooden bowl and peach-stone dice, and many ceremonial and social dances. Among the latter Mr. Skinner observed or participated in the *Gadashote*, or Social Dance, and the Pigeon, Bear, Fish, Raccoon, Woman's, Duck, and Feather dances. Of these the most unusual was said to be the Duck dance, now rarely given. The participants dance in couples, women and men separately, holding hands. The women dance backward, facing the men. At a given part in the song the men raise their clasped hands, and the women stoop and run under them very much as in the old English folk-dance called "London Bridge is Falling Down." At a change in the words of the song the men lower their hands, and the women halt where they are caught, dancing there until the next number. The performance of the men is said to be mimetic of the actions of a drake in herding his flock. The resemblance of all the social dances to those of the Southeastern tribes, rather than to those of the Middle West, is most striking.

Of the ceremonial dances, the *Adonwah*, or Thanksgiving dance, and the rites of the Husk and Falseface societies, were also seen, and some notes on the latter two will be given later. On invitation of several of the devotees, Mr. Skinner also attended an all-night session of the Little Waters

INDIAN NOTES

Medicine Society, or *Niga Niga'a*. It is wonderful, and a tribute to the force of character of the Seneca that, in spite of more than three centuries of continuous contact with white people and with persecution, so much of the old religion has survived, and in so pure a form.

As interpreter Mr. Skinner was fortunate in securing the services of Mr. John Kettle, brother of the late well-known Seneca chief Delos Big Kettle, of the Cattaraugus reservation. Much credit is due Mr. Kettle for his cheerful acceptance of all difficulties, and his ultimate success in assisting Mr. Skinner to secure many interesting and ancient specimens.

PRESERVING INDIAN HISTORY.—For the purpose of further recording the fact that all missionary organizations are not opposed to the performance of native ceremonies by the Indians, and that the importance of motion pictures such as those made for the Museum last summer among the Arikara by Mr. Coffin under Dr. Gilmore's supervision is appreciated, the following brief notice, which appeared in *The Catholic Register*, is reprinted from *The Indian Leader*, published by Haskell Institute at Lawrence, Kansas:

"A real service is being done for history by Dr. Melvin R. Gilmore of the Museum of the American Indian. He has persuaded

INDIAN NOTES

members of the Arikara tribe to perform some of their dances and religious and tribal ceremonies before the camera. He established a typical village of old Indian days in which he gathered those things which were peculiar to their tribal life. The dances and ceremonies will be recorded in motion pictures and will preserve for future generations interesting history of the vanishing Indian.

"The doctor has spent many years in study of the Indian tribes of the Northwest and he has been able to bring to his work of reconstruction a thorough knowledge of conditions in the days when the Indian followed more fully his tribal customs. It is of interest to know that the Indians co-operate in every way with Dr. Gilmore. He tells us that 'they wanted their old customs preserved.' The average Indian is fearful of the white man. The willingness of the Arikara, the last custodians of old traditions and legends, may be attributed to the knowledge that they would not be exploited to the financial advantage of the white promoter. This work of Dr. Gilmore done under such an institution as the Museum of the American Indian, Heye Foundation, shows one of the many good purposes to which the 'movies' may be used. Too frequently they have been prostituted in the cause of false propaganda and the spread of crime and immorality. They have been grossly abused, but Dr. Gilmore has shown that they do not deserve general condemnation but may serve a very good purpose.

"We shall see in the pictures made by Dr. Gilmore an Indian with which we are not familiar. The ordinary stage Indian is nothing more than a savage. No attention is paid to the truth regarding the Indian practices and ceremonies. Although this work of Dr. Gilmore may not have much popular interest, it will be a part of the record for all time of the customs and ways of the oldest inhabitants of our continent."

INDIAN NOTES

DR. MELVIN R. GILMORE has been engaged recently in the critical reading of the typed manuscript of a journal written by Gen. Philippe Regis de Trobriand, U. S. A., commanding the Military District of the Upper Missouri in Dakota Territory in 1867-69. General de Trobriand was a native of Tours, France, and he wrote his journal in the French language. It is in process of translation with the purpose of publication in the English language in the near future. He has found this journal to contain very much of ethnological interest concerning the Teton and Yanktonais Dakota, Arikara, Mandan, and Hidatsa, with which tribes Dr. Gilmore is familiar by personal acquaintance in his own ethnological work in recent years. Because of his knowledge of these tribes Dr. Gilmore's critical reading of the journal was desired by the prospective publisher in order to guard against error, to verify personal names of tribesmen and native geographic place-names, and to make necessary commentation on the text.

THE Public Museum of the City of Milwaukee has recently published in its *Bulletin* series a memoir on The Mascoutens or Prairie Potawatomi Indians—Part 1, Social Life and Ceremonies, by Alanson Skinner, now of the Museum of the

INDIAN NOTES

American Indian, Heye Foundation. This article forms the first part of a monograph the material for which was gathered by Mr. Skinner in the field while Curator of Anthropology in the Milwaukee Museum. In the same series has appeared another short paper, Notes on Mahikan Ethnology, by the same author, which is of particular local interest inasmuch as it deals with the customs of a well-known Algonkian tribe, now nearly extinct, whose former home was on the Hudson. The specimens and the subjective data utilized by Mr. Skinner were gathered by him, while at Milwaukee, from the remnant of the Mahikan now resident on the east shore of Lake Winnebago, Wisconsin.

THROUGH the generosity of the Vice President of its Board of Trustees, Mr. Harmon W. Hendricks, the Museum has received a number of excellent additions to its collections, procured at the recent auction sale of the Indian objects belonging to Major Abbott. Among the most noteworthy specimens are: a very large, old, circular Pomo basket measuring 27 inches in diameter and 15 inches in height; a particularly fine example of old Chippewa bow, notched at the edges; a bird-form rattle from the Haida, on the back of which is a finely carved mountain-

INDIAN NOTES

sheep head instead of the conventional frog figure; and a large chipped quartz knife-blade from King William county, Virginia. Among Mr. Hendricks' other recent gifts to the Museum are a Comanche war shield and cover, both painted, and a very old Haida slate carving representing a raven's head, the neck of which is perforated for use as a flute.

DURING last fall and winter Mr. Alanson Skinner delivered a series of six lectures on 'The Ethnography of North America at Hunter College, New York City, under the direction of Professor Burgess. Mr. Skinner also spoke at the Brooklyn Institute of Arts and Sciences on February 28, his subject being Adventures Among the Indians of the Forest Region, and in addition he has presented addresses on various ethnological and archeological subjects before the Explorers Club of New York, the Staten Island Institute of Arts and Sciences, the Morgan Chapter of the New York Archeological Society of Rochester, the Woman's Club of Staten Island, and the Woman's Auxiliary to the National Council, Diocese of New York.

DR. MANUEL GAMIO, who, while a student at Columbia University accompanied Professor Saville as an assistant on the Marie Antoinette Heye Expe-

INDIAN NOTES

dition to Ecuador in 1910, has been appointed Sub-secretary of Public Education in the cabinet of President Calles of Mexico. Dr. Gamio has been Director of Anthropology and Inspector of Ancient Monuments in Mexico for some time. The Department of Anthropology has been given control of the National Museum, a consolidation that will be the means of advancing research in American archeology to a considerable degree. Plans are in progress for conducting extensive field work in ethnology and archeology in Oaxaca, similar to that prosecuted under Dr. Gamio's direction in the Valley of Mexico at Teotihuacan.

DR. MELVIN R. GILMORE of the Museum has recently presented the following addresses by invitation: On February 7, before a club in Rutherford, New Jersey, on the subject of Aboriginal Ethnic Groups and Culture Areas of North America; on February 27, before the Trinity Men's Club in Morrisania on Aboriginal Occupancy and Industries in North America; on March 17, before the Science Club of Hunter College of the City of New York, on the Mythology and Religious Ceremonies of the Arikara Indians with Relation to their Aboriginal Agricultural Life.

THE following radio talks have recently been broadcast in behalf of the Museum from station

INDIAN NOTES

WJZ, New York: January 16, Mr. Cadzow, Eskimo and Indians of the North. January 29, Dr. Gilmore, Economic Life of Aboriginal America. February 10, Dr. Gilmore, Prehistoric Farmers of the Ozarks. February 24, Mr. Cadzow, Ancient Zuñi Indians of the Southwest. March 19, Professor Saville, The Indians of Mexico and their Future.

A PLUMMET-SHAPE stone object from Lee county, and an implement fashioned from a clam-shell from Key Marco, Florida, have been presented by Mr. Clarence B. Moore. The latter specimen is unique in the collections of the Museum, as it is oval, with a single semicircular notch, possibly designed for the attachment of a wooden handle, in which event it would well have served as a hoe.

MR. CHARLES O. TURBYFILL proceeded to Nevada in February to assist Mr. Harrington in the exploration of the early Pueblo remains in the southeastern part of that state.

THE number of visitors to the Museum from November 15, 1923, to November 14, 1924—the second year since it was opened to the public—was 46,157.

MR. F. W. HODGE has been elected an honorary fellow of the Royal Anthropological Institute of Great Britain and Ireland.

The MUSEUM OF THE AMERICAN
INDIAN, HEYE FOUNDATION, has
issued several series of publica-
tions, a price-list of which will
be sent on application.

INDIAN NOTES

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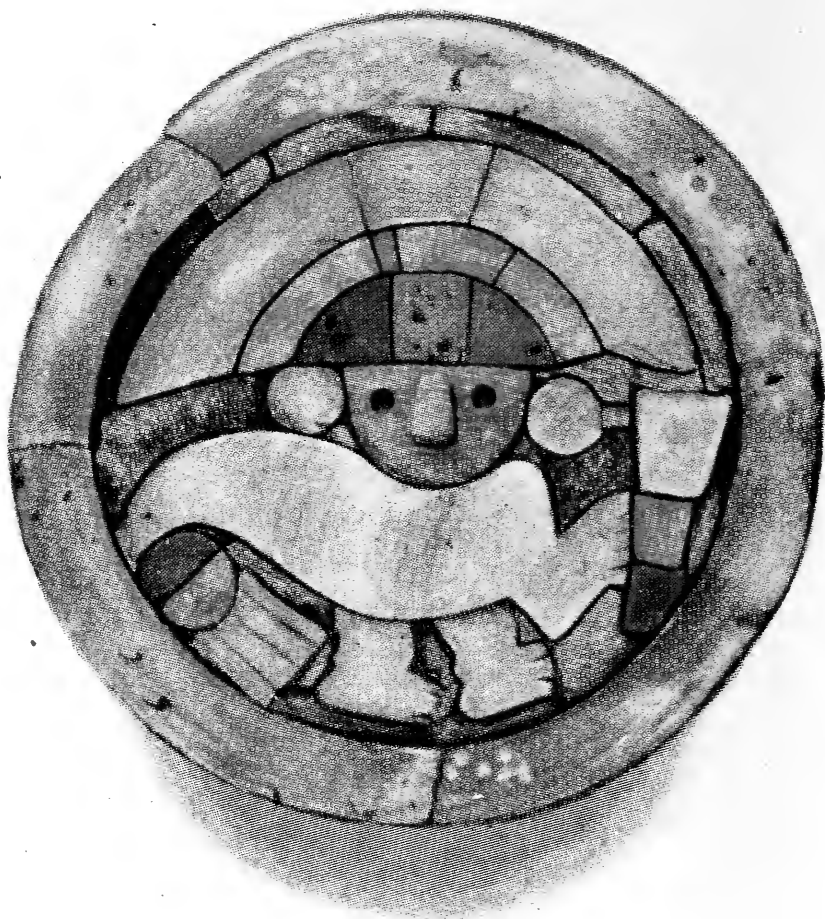
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CONTENTS

	<i>Page</i>
Ancient Mosaic Ear-plugs from Peru. Marshall H. Saville	145
Central Eskimo and Indian Dot Ornamentation. Frank G. Speck	151
Habitat of Loucheux Bands. Donald A. Cadzow	172
The Ground Bean and Its Uses. Melvin R. Gilmore	178
Porcupine Quillwork from Lovelock Cave, Nevada. William C. Orchard	187
Some Seneca Masks and their Uses. Alanson Skinner	191
Indian Wells on Long Island. Foster H. Saville	207
Crow Love Medicine. William Wildschut	211
Jivaro Dance Regalia. William C. Orchard	214
Caraja and Cayapó Artifacts from Brazil. Francis Gow-Smith	219
Ancient Salt Mine near St. Thomas, Nevada. M. R. Harrington	227
A Seneca Antique Tobacco Pipe. Alanson Skinner	231
Mr. Verrill's Sabanero-Guaymi Trip	232
Recent Accessions by Gift	239
Notes	241



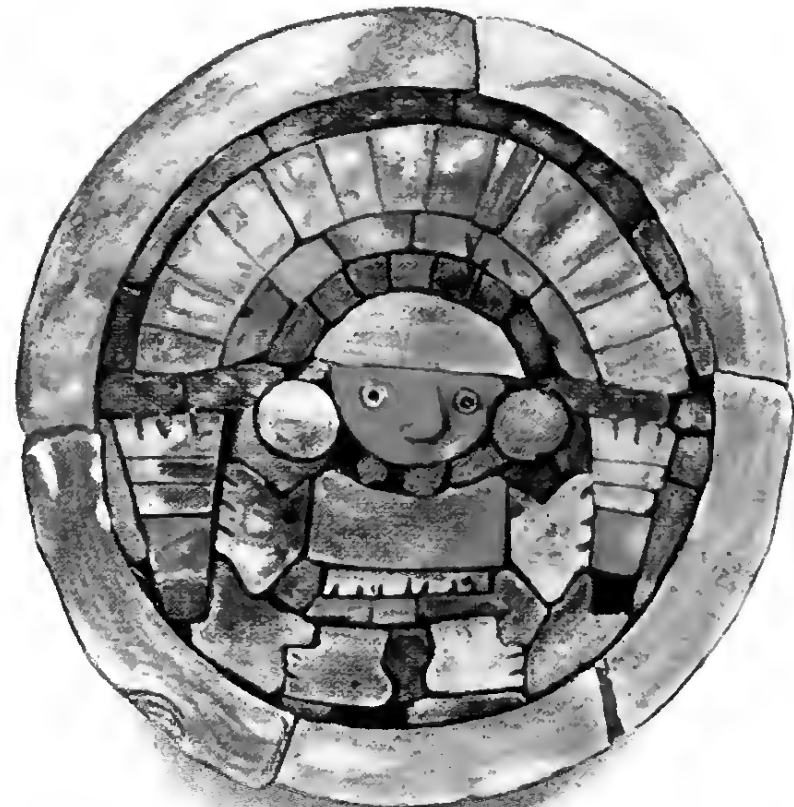
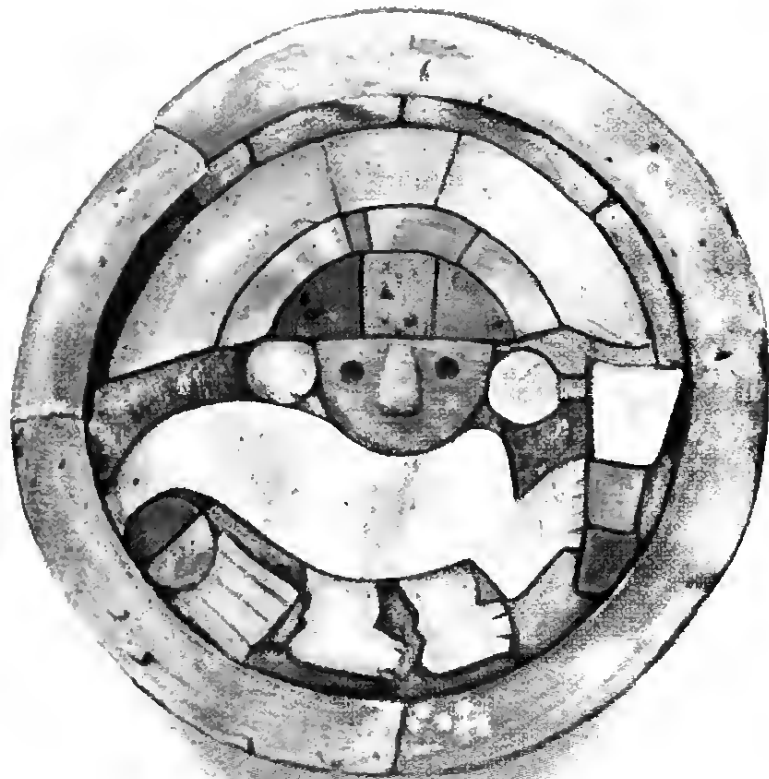


PAIR OF MOSAIC EAR-PLATE

PL. I



FROM THE COAST OF PERU



PAIR OF MOSAIC EAR-PLUGS FROM THE COAST OF PERU

INDIAN NOTES

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VOL. II

JULY, 1925

No. 3

ANCIENT MOSAIC EAR-PLUGS FROM PERU



SO FAR as we now know, the art of mosaic work was practised by only a few tribes of ancient America. The existence of this art in the Pueblo region of our Southwest is well known, but it reached its highest development in Mexico. Early in the sixteenth century, Grijalva and Cortés brought to the attention of Europeans the great treasures of the so-called Aztec empire, having obtained, among other things, examples of turquoise mosaic objects from the coast region of the Gulf of Mexico, which were sent at once to Spain.

Only in recent time have we been aware of the existence of mosaic art in ancient Peru, through specimens that have been discovered in pre-Inca tombs along the coast, and from a single example

INDIAN NOTES

found in upper Peru, in the vicinity of Lake Titicaca. More recently many objects embellished with mosaic have been found in graves uncovered in the desert region of Atacama, in the Antofagasta district, near the coast of northern Chile. The mosaic art of South America indicates a technique somewhat similar to that of Mexico, but generally it exhibits less skill.

This Museum has recently added to its Peruvian collection, by gift of Mrs. Thea Heye, the pair of beautiful mosaic ear-plugs illustrated in their actual size in pl. 1. The technique is typically Peruvian, the human figure appearing as the central motive of each of the ornaments being similar in character to the wooden and earthenware effigies from the Peruvian coast. Only the front part of the ornament remains, the spool-like plug of wood, either solid or hollow, which entered the pierced lobe of the ear, being missing. The mosaic has been laid on a composition, probably a mixture of gum and wax. The slightly hollowed under-surface reveals where the matrix of the mosaic was fastened over the end of the plug, which measured about an inch and a quarter in diameter. The pattern on the face of the ornament is fashioned with pieces of cut mother-of-pearl, reddish and purplish shell, and green stone and turquoise. The face of the figure in one

INDIAN NOTES

of the ear-plugs has tiny mother-of-pearl beads inlaid for eyes, but the eyes of the figure in the other have fallen out. The treatment of the body of the personage represented in the slightly smaller disc is peculiar in that a single piece of mother-of-pearl forms the body, giving it the aspect of a wing projecting from the back. The various features of these striking pieces are well brought out in the colored illustrations, so that no detailed description is necessary.

It seems opportune to compare this pair of ear-ornaments with several kindred examples in other museums, for objects of this class are by no means common. Drawings of six such ornaments are reproduced in fig. 63.

Some time ago Joyce published an account of the southern limit of incrustated work in ancient America, in which he considered especially two specimens of this character in the British Museum.¹ One of the pieces described is a flat wooden knob, which was found in the vicinity of Pacasmayo on the coast. Joyce states that only the central part of the mosaic, placed over a thick resinous layer, remains. The design represents a conventional double-bird form consisting of a single piece of pearl shell, with a background of red and purple shell, and with eyes of turquoise. The

¹ T. A. Joyce, *South American Archæology*, p. 130.

INDIAN NOTES

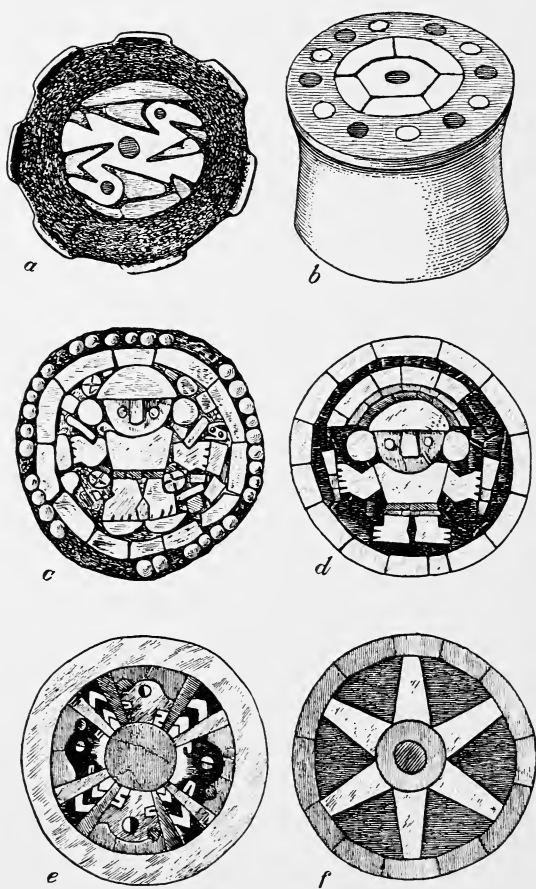


FIG. 63.—Various Peruvian ear-ornaments

INDIAN NOTES

under-surface being hollowed out, the object is identified as an ear-plug, although the spool-like member that entered the lobe is missing. This specimen, which is an inch and fifteen-sixteenths in diameter, is illustrated in fig. 63, *a*.

In *b* of the same illustration is shown an ear-plug with a spool-like projection for insertion in the ear. This specimen, which has a conventional mosaic design in mother-of-pearl, is illustrated by Wiener,² who states that it was found at the necropolis of Ancon. The face of the ornament is one and nine-sixteenths of an inch in diameter.

Baessler³ has illustrated another beautiful object of this class, shown in fig. 63, *c*. This piece did not come from the coast, but was discovered at Copacabana in upper Peru, on the shore of Lake Titicaca, near the Bolivian border. The chief feature of this specimen, which closely resembles one of those shown in our colored plate, is the central human figure, which is surrounded by a circle made up of a dozen pieces of inlay and, at the edge of the disc, a series of tiny globular settings. Extending around the rim of the reverse side there is also a mosaic incrustation, and in the middle is attached a wooden tube,

² Charles Wiener, *Pérou et Bolivie*, pp. 668-670.

³ Arthur Baessler, *Ancient Peruvian Art*, pl. 152, fig. 415.

INDIAN NOTES

slightly curved, about seven-eighths of an inch long, for placing in the lobe. This ornament is of unusual size, the diameter of its face being three and three-eighths inches.

A pair of similar ornaments (*e*) are in the Gaffron collection in Schlachtensee, near Berlin, and have recently been illustrated by Lehmann.⁴ These specimens, from the famous ruins of Pachacamac, are two and five-eighth inches in diameter, and still retain the plugs for insertion in the ear. The mosaic consists of mother-of-pearl, red shell, and other inlays of purple, green, and black materials.

In the Peruvian collection in the American Museum of Natural History, gathered by Bandelier, are several ear-plugs of this character, two of which are shown in *d* and *f* of our figure, the former, like the Baessler specimen (*c*), being similar in design to one of the specimens represented in our plate. Of the two examples in the American Museum of Natural History, *d* is three and one-quarter inches in diameter, and *f* only a little more than two inches in diameter by five-eighths of an inch in thickness. The reverse side of the latter is convex, and its cylindrical plug is two inches long by five-eighths of an inch in diameter. The mosaic of the various speci-

⁴ Walter Lehmann, *The Art of Old Peru*, pl. ix.

INDIAN NOTES

mens in the American Museum of Natural History is of the same materials as the others.

Although the mosaics of Peru, as a class, are not so refined in treatment as those of ancient Mexico, they are fashioned with boldness, and the general effect is artistic and pleasing.

MARSHALL H. SAVILLE

CENTRAL ESKIMO AND INDIAN DOT ORNAMENTATION

THE characteristic dot ornaments appearing on decorated carvings of the Central Eskimo have aroused some interest among students of Arctic culture. The suggestion of an Indian source for these blackened dot decorations in ivory carving has already been made by Dr. Boas, who referred to the importance of the dot design occurring on combs, on hair ornaments, fringe buttons, and ivory eyelets, all of which he illustrated in his Second Report on the Eskimo of Baffin Land and Hudson Bay.¹ Boas thought that this design among the Eskimo had more recently been developed into the circle-and-dot-design, and at the same time expressed the opinion that the design may have been due to Indian influence. Apropos

¹ *Bull. Amer. Mus. Nat. Hist.*, vol. xv, pt. 11, 1907, p. 460, figs. 215, 217, 218, 226, 262.

INDIAN NOTES

of possible Indian influence on other phases of Eskimo industry, Boas also thought that the stone pipes of the Hudson Bay Eskimo showed strong Indian influence.² On this point Wissler³ also added his testimony, mentioning that eight pipes similar to those described by Boas were forthcoming from Ponds bay, while the writer described three more, similar in all respects to those just referred to, obtained from Vigneau who procured them from the Ponds Inlet Eskimo.⁴ Again in 1924 Vigneau brought out two more of these pipes from the same Eskimo group. All bear a resemblance to the stone pipes made by the Cree and Montagnais-Naskapi of the sub-jacent regions. The specimens referred to are all in the collections of the Museum of the American Indian, Heye Foundation.

Accordingly I propose to raise the inquiry again, since some material has been recently encountered among the Labrador Indians to confirm the view of the situation taken by Boas. Specimens from the Eskimo inhabiting the territory between Hudson bay and North Greenland show the distribution of the dot motive to be

² Ibid., vol. xv, pt. 1, 1901, p. 110, fig. 160.

³ Notes on New Collections, *Anthr. Papers Amer. Mus. Nat. Hist.*, vol. II, pt. III, 1909, p. 317.

⁴ Eskimo Collection from Baffin Land and Ellesmere Land, *Indian Notes*, vol. 1, no. 3, 1924, figs. 32, 33.

INDIAN NOTES

widespread in the central area. This particular type of ornamentation seems not restricted to any

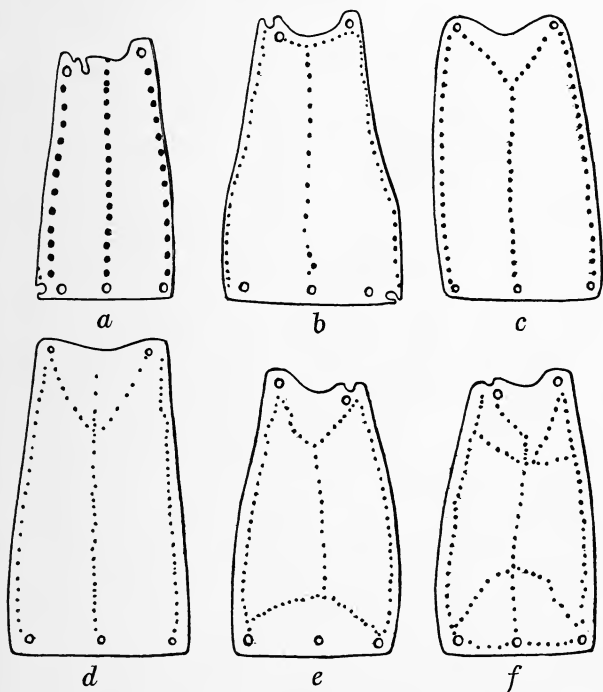


FIG. 64.—Types of dot decoration among the Central Eskimo. Hair ornaments from Southampton island.
(After Boas, 1907)

one class of utensils. From the Baffin Land Eskimo, Boas shows ivory combs and needle-

cases, and from the Hudson Bay bands he has combs, eyelets, fasteners, and pendants, practically all of ivory, showing the same form of decoration (figs. 64-68). Other collections, some of them illustrated in publications, show its comparative frequency in the same region; for instance, Wissler⁵ figures a needle-case of the much-discussed

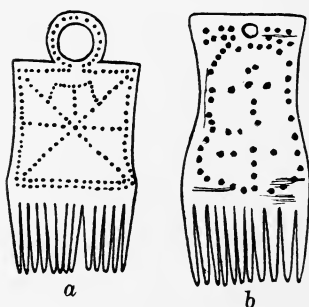


FIG. 65.—Ivory combs. *a*, Aivilik; *b*, Netchillik. (After Boas, 1907.)

“rectangular” type,⁶ carrying a decoration produced by dots, as coming also from an old site on Southampton island. An ivory dog-whip handle in possession of Mr. Vigneau of Quebec, which he obtained at Ponds inlet, Baffin Land, shows a profusion of the blackened dots

around the butt-end as a form of decoration. And several specimens of ivory animal carvings with blackened dot ornaments in the collections of the McCord Museum of McGill University, Montreal, from the Labrador Eskimo, add evidence to that already presented.

⁵ Op. cit., fig. 3, p. 317.

⁶ Cf. Boas, 1907, p. 459.

INDIAN NOTES

Southward across Hudson straits, on the north Labrador coast, specimens of Eskimo ivory carving also show the frequency of the simple

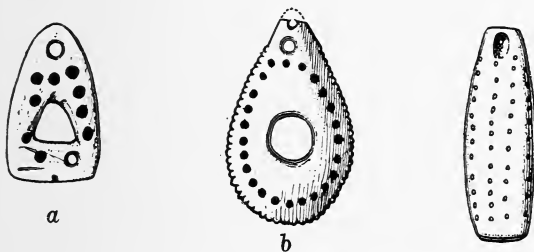


FIG. 66.—Eyes for needle-cases.
a, Ponds bay; b, Southampton
island. (After Boas)

FIG. 67.—Ivory bead hair
ornament, South-
ampton island.
(After Boas)

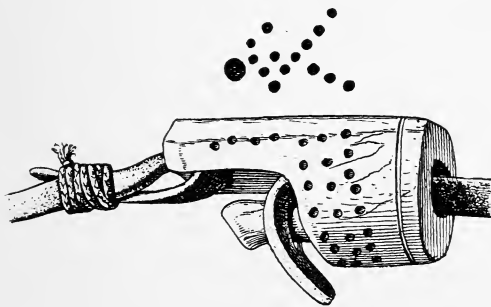


FIG. 68.—Button for sledge line, Iglulik. (After Boas, 1907)

dot motive in this region. A carved walrus tusk which I obtained from a Naskapi at the Seven Islands post shows two figures, those of a bird

INDIAN NOTES

and a seal decorated with the same device (fig. 70). He had traded it from an Ungava Eskimo on one of his journeys to the north.

Among the southern and eastern Labrador Eskimo, whose material culture might be expected



FIG. 69.—
Ivory fastener
with dot orna-
mentation,
Ponds inlet,
Baffin Land.
(Actual size)

to show connection with the Hudson Bay groups, it does not come out with noticeable prominence, judging from published material, although Hawkes⁷ shows two ivory carvings carrying a few blackened dots, and a set of dominoes⁸ from the coast of Hudson bay. This author,⁹ in referring to Labrador Eskimo art, remarks, "Dots are also used, but to imitate some feature of the model, not as a design."

While a survey of existing published material indicates the center of frequency for this form of art among the Eskimo to be chiefly in the central and north-central regions and those presumably affected by influence from the same area, it seems not entirely absent outside of this sphere. The collections of the Museum,

⁷ The Labrador Eskimo, *Geological Survey of Canada*, 1916, pl. xxvi, *b*, *c*.

⁸ *Ibid.*, pl. xxxii, *b*.

⁹ *Ibid.*, p. 100.

INDIAN NOTES

which I examined at length through the kindness of Mr. Orchard and Mr. Cadzow, contain objects of ivory decorated with the dot design from several localities among the Eskimo west of Hudson bay (in Alaska, from Bristol bay, two animal carvings and five toggles; Unalakleet, a seal carving; Point Barrow, a walrus-tooth toggle representing an animal; St. Lawrence island, two ivory carvings of birds and three animals, and one carving from the Siberian Eskimo), showing that the idea is not entirely lacking away from the central groups. The motive, however, does not appear with a frequency by any means equaling that among the art productions of the Baffin Land and Hudson Bay Eskimo. Again, it is shown sparingly in articles from the Smith Sound area (fig. 71); but here its presence is regarded by Wissler as recent, having arrived with other peculiarities from the central regions. This case is interesting enough to review.

In attempting to consider the possible source of introduction of these designs among the Polar Eskimo, it is necessary



FIG. 70.—
Eskimo ivory
carving from
Ungava,
Labrador,
with dot
ornaments
on bird and
seal figures.
(Length, $9\frac{3}{4}$
in.)

INDIAN NOTES

to give some attention to the findings of Wissler in his study of the archeological material returned from Comer's Midden, a deposit of refuse near North Star bay on the south shore of Cape Wostenholme, North Greenland. From the lower level of this deposit, which is relatively old, and comparable in its yieldings with the older artifacts of the Baffin Land area, it would seem that decorated objects are conspicuously absent. Yet

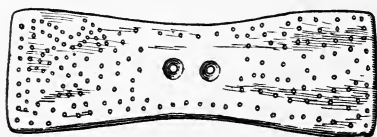


FIG. 71.—Decorated ivory carving from Etah, North Greenland. (After Wissler, 1918)

the upper surface yields a few decorated ivory carvings, and it is among these that several dot-ornamented pieces appear. A safe inference from these sources is, as Wissler points out, the later intrusion eastward of the motive of decoration from the central area. To use his own words: "We may note that decorated objects are absent from all parts of Comer's Midden and apparently from all older sites examined by the expedition. This is also true of the Alaskan sites explored by the Stefánsson-Anderson expedition. It is fair, therefore, to raise the question as to the place of such art in Eskimo chronology."¹⁰ He

¹⁰ Wissler, *Archaeology of the Polar Eskimo*, *Anthr. Papers Amer. Mus. Nat. Hist.*, vol. xxii, pt. iii, 1918, p. 158.

INDIAN NOTES

further states his opinion in respect to the relative culture position of the Northwest Greenland Eskimo by saying, "In culture, they are nearer the Central Eskimo than West or South Greenland; in fact, they are so near the former in contrast to the latter, that we must suspect their recent arrival from the Arctic Archipelago."¹¹

The problem is considerably deepened by the occurrence of a similar form of decoration on ivory objects from the Ammasalik Eskimo of East Greenland. Thalbitzer¹² illustrates its frequency there. The articles correspond quite closely with those from the central tribes showing the same dot decorations. The author himself thinks that the East Greenlanders correspond more closely in art with the Eskimo westward¹³ than with the West Greenlanders, whose art he also estimates as inferior to theirs.

To furnish a wider perspective it may be worth noting that the dot ornaments seem absent from a few decorated objects obtained from the Northeast Greenlanders above Scoresby sound by the Amstrup expeditionaries.¹⁴

¹¹ Ibid., p. 162.

¹² W. Thalbitzer, *The Ammasalik Eskimo*, pt. 1, Copenhagen, 1914, figs. 42, 43, 204, 223, 230, 236, 239, 240, 242, 246, 271, 331, 335, 336, 374, passim.

¹³ Ibid., p. 124.

¹⁴ Thalbitzer in *Meddelelser om Grønland*, no. 7, Copenhagen, 1909.

INDIAN NOTES

Although no final inference of a North Greenland route of passage for the Ammasalik may be made, speaking from a conservative standpoint, it may not come amiss to add to testimony along this lead already offered by Thalbitzer, by pointing out that three harpoon-heads from Ellesmere Land, showing a peculiarity in the attachment

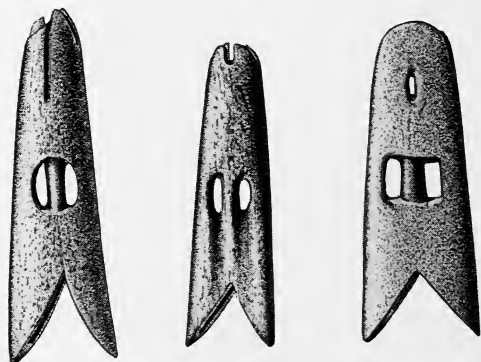


FIG. 72.—Ivory harpoon-heads, Ellesmere Land. ($\frac{2}{3}$)

perforations, seem to have no other correspondents in their distinguishing characteristics outside of East Greenland. These harpoon-heads I obtained also from Vigneau, and figured with a brief mention in a former paper of this series.¹⁵ They were found, Vigneau stated, in several feet of moss, about an old site near a station known to the crew of the *Arctic* during the winter of 1922-23

¹⁵ *Indian Notes*, vol. 1, no. 3, July, 1924, fig. 37, p. 148.

INDIAN NOTES



FIG. 73.—Eskimo women of Ponds Inlet wearing coats with dot ornamentation. (C. Vigneau, photo., August, 1924)

INDIAN NOTES

as Craig Harbor, and show signs of age and decay. These figures are reproduced here (fig. 72) for comparison with similar ones from near Nualik, East Greenland.¹⁶

With the preceding objects in the mind's eye a series of specimens from various bands of Naskapi in the Labrador peninsula may be compared. In scope and character the resemblance is pronounced. A series of bag-fasteners and pipe-cleaners, made of caribou-bone, from the Naskapi of the Natasquan band (figs. 74, 75), shows the ordinary treatment of the dot as a decorative device. The holes in these cases are not deliberately filled with black, but acquire the same condition through the accumulation of grease and dirt adhering to the fingers that handle them. At Seven Islands a number of specimens of the same category testify to the extension of the dot ornaments. At the same trading station, objects brought out by the Indians coming from the distant interior about Lake Michikamau, those of the Michikamau band, also show the same (fig. 76). Informants in each of the groups mentioned term these dots *pinèò mèshkenu*, "bird tracks." In designs, moreover, on the painted caribou-skin coats of the Ungava band of Naskapi, we find the dots frequent as adjuncts

¹⁶ Thalbitzer, *The Ammasalik Eskimo*, p. 426, fig. 131.

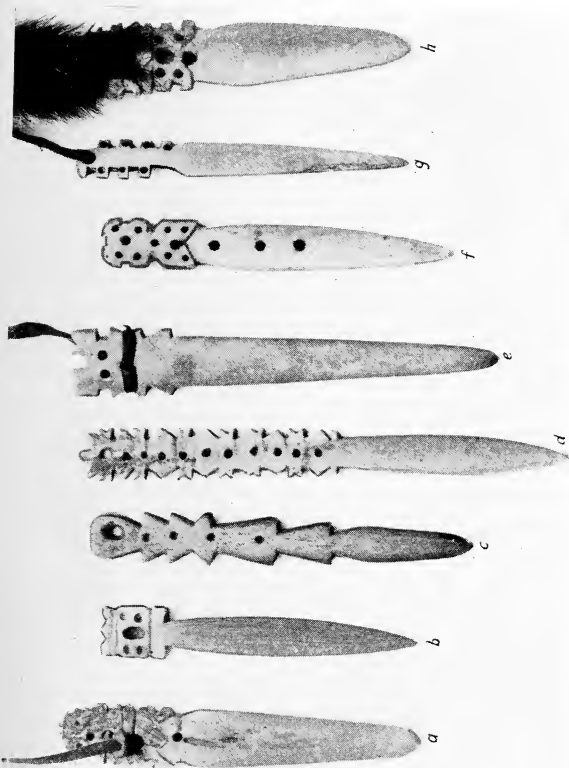


FIG. 74.—Montagnais-Naskapi bone bag-fasteners and pipe-tamps showing dot decoration. *a*, *b*, *d*, *e*, *h*, Lake St. John band; *c*, Michikamau band; *f*, Moisie band; *g*, Natasquan band. (Length of *d*, $4\frac{7}{8}$ in.)

INDIAN NOTES

to the curved figures which characterize the art of the whole northeastern Algonkian area (fig. 77).

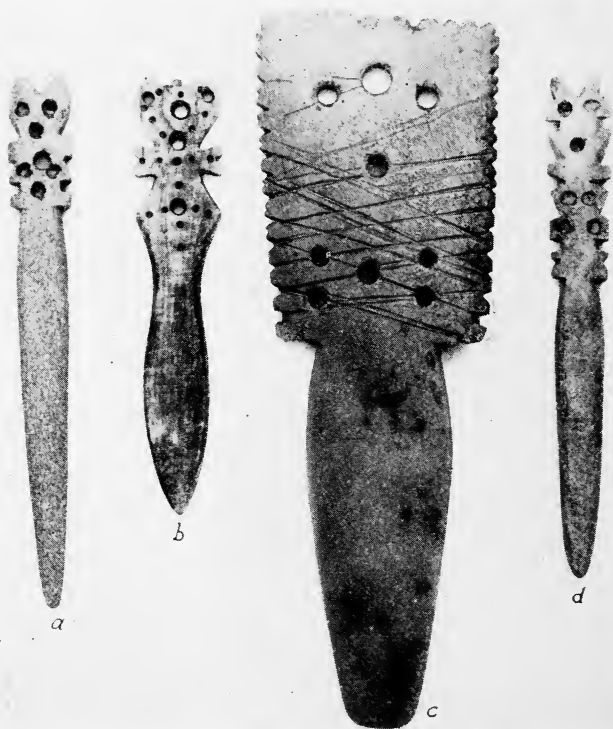


FIG. 75.—Naskapi and Montagnais bone pipe-tamps and bag-fasteners showing dot designs. *a*, Seven Islands, length $3\frac{3}{16}$ in.; *b*, colored with red stain, Natasquan band, length $3\frac{1}{8}$ in.; *c*, Escoumains band, length $5\frac{1}{8}$ in.; *d*, Seven Islands, length $3\frac{9}{16}$ in.

INDIAN NOTES

But here in the painted figures we have the designation of *minàn*, "berries" or "fruit." The Mistassini affect a similar device in art on bone. And

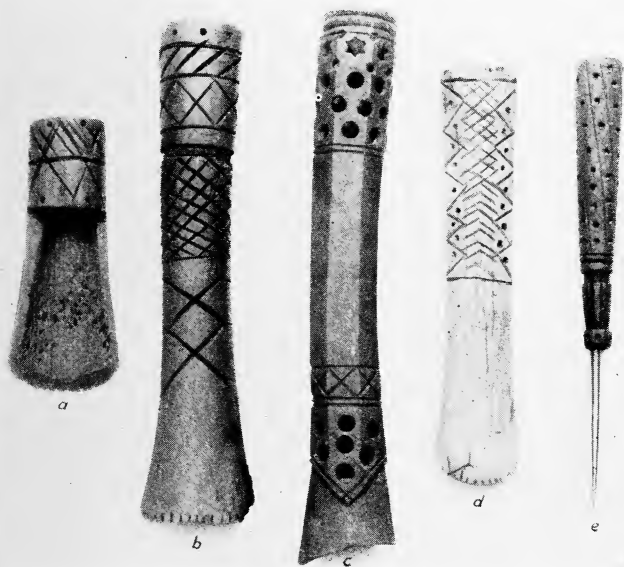


FIG. 76.—Naskapi bone implements decorated with dot designs. *a*, *b*, Bear-bone skinning tools, Michikamau band, length $3\frac{3}{8}$ and $5\frac{3}{4}$ in.; *c*, bear-bone skinning tool, Mistassini band, length $6\frac{3}{8}$ in.; *d*, bone skinning tool, Ungava band, length $4\frac{3}{4}$ in.; *e*, caribou-antler awl with iron point, Michikamau band, length $5\frac{3}{16}$ in.

in the decoration of certain birch-bark utensils they paint them with groups of five red dots

INDIAN NOTES

arranged like a cross, explaining the act as one which satisfies the "soul spirit" of the individual which seems to possess some esthetic appreciation. By employing the dot group as a decorative symbol the hunter, they believe, indicates his respect for the spirits of slain animals.



FIG. 77.—Naskapi painted caribou-skin coat design, showing frequency of dot motive. Ungava band, Labrador

A similar use of dots, painted red in groups, is mentioned by Skinner for the Cree about James bay.¹⁷ They were painted on leather coats, but no name symbolism is given them by him.

¹⁷ Notes on the Eastern Cree and Northern Saulteaux, *Amer. Mus. Nat. Hist.*, 1911, p. 53, fig. 35.

INDIAN NOTES

The dot decoration is found constantly appearing in painted articles among different bands of the Labrador Indians. From the Naskapi of the Michikamau and Natasquan bands there are in the Museum, snow-shovels, collected by Dr. Hallowell and myself, having red dots in rows painted along the outer edge. The Mistassini stone pipes have inlaid dots in lead on their bases, and from the Lake St. John Montagnais I have brought out several leather knife-cases decorated with dots and three-pointed figures in silk embroidery which, as might be expected, were explained as "partridge tracks." In short, the dot motive is generally present in Montagnais-Naskapi art in whatever form, embroidery, carving, or painting, it may be expressed.

South of the St. Lawrence the Wabanaki tribes produce a similar motive in art, though not appearing strictly analogous in its method of treatment. Dotting does not suffice here as a sole motive of decoration. It occurs only sparingly in conjunction with other pattern forms in wood decoration, and on bone gaming dice among the Wabanaki (fig. 78). Farther south, however, the dot ornament strangely appears with great prominence. In southern New England, for example, designs on the Mohegan painted baskets may be regarded either as having

INDIAN NOTES

acquired the dot figure or, more plausibly perhaps, to have retained the motive through time and separation from a center of distribution where it may have been a property common to the northern cultures. The dotted patterns of south-

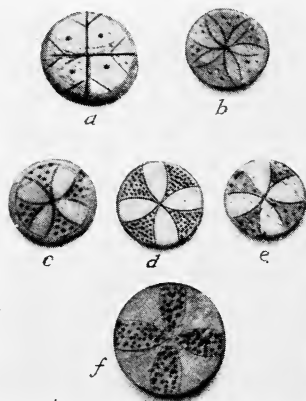


FIG. 78.—Bone dice for dice-and-bowl game, having the dot motive. Wabanaki group. *a, c, d, f*, Micmac; *b, e*, Penobscot. (Diameter of *f*, $1\frac{1}{8}$ in.)

ern New England resemble in some peculiarities those of the Labrador area, in that the dots surround the curves, forming an edging (fig. 79). While the pattern types of the various areas, where dotting is strongly noticeable, are not so close in their external resemblances to suggest affinity at first sight, it is their fundamental resemblance that

would suggest the probability of a Hudson Bay setting for this particular form of ornamentation, and its diffusion over contiguous areas northward and outward among the Eskimo, and even to the Iroquois through their early contact with the Algonkian.

INDIAN NOTES

It would be interesting to trace the dot ornamentation through the art work of the Athapaskan peoples of the Northwest; but this, it would seem, can hardly be done with the existing collections. The specimens from this area in the Museum of the American Indian, Heye Foundation, show clearly its absence, which, according to Mr. Cadzow, is a true indication of circumstances that came under his observation in the field. One specimen, at least, from one of these tribes is a bone crooked knife-handle having two series of dots running lengthwise and parallel, figured by Caspar Whitney.¹⁸ If the dot design were of greater frequency in the Northwest we might get a clearer idea of the reason for its occurrence upon occasional specimens returned

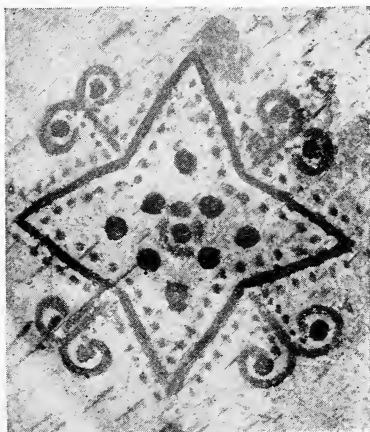


FIG. 79.—Dot design painted on Mohegan (Conn.) bark basket

¹⁸ On Snow-shoes to the Barren Grounds, N. Y., 1896, p. 179.

INDIAN NOTES

from the Alaskan Eskimo. The weakening or entire absence of this system of decoration in contiguous regions west and east of the Central Eskimo and Labrador areas adds strength to the impression that its origin lies in one or the other of the populations there. We find it, for instance, entirely absent from the decorated bone ornaments obtained in such quantities in northern Newfoundland and figured by Howley,¹⁹ who illustrates about one hundred and fifty specimens profusely decorated with the incised zigzag and triangle figures so characteristic of the ornamentation of the Wabanaki tribes, but none show dotted patterns.

It seems indeed reasonably clear that the center of frequency of the dot motive is, as respects Eskimo art, among the tribes of the Hudson Bay region and the marginal areas affected by their influence, carried to the north, and on the other hand, as respects Indian art, similar in its geographical and distributional occurrence. The outcome of such a conclusion would seem to be that the motive arose somewhere in these general precincts, that is, in the Hudson Bay region among one or the other peoples or from an art source common to both. Its wider and deeper

¹⁹ The Beothucks or Red Indians of Newfoundland, Cambridge, 1915, pls. xxv-xxix.

INDIAN NOTES

position, with symbolism, in northern Indian, in this instance Algonkian, art might seem indeed to point to this as a base. Yet in view of the lack of art material, in etching on bone and painting on leather, from so many localities where it may be looked for, the origin explanation rests more as a suggestion first conceived, of course, by Boas, than a conclusion: one opening up a problem to be borne in mind in the future examination of northern culture properties.

The simple dot design, which might appear to be connected with the dot and circle ornament of the Eskimo art, is to my mind a question to be considered by itself. The dot alone is very widespread. It appears in regions of North America where its connection with northern culture, and, more narrowly considered, with Algonkian, is not too obvious unless we trace its diffusion from a base very remote in antiquity. By doing this, it would seem, we might even extend it back to an Aurignacean milieu from its occurrence there in specimens of ivory carving. The circle-dot design, however, is much more restricted in its occurrence, and, being essentially confined to the Eskimo, would appear, from the findings of Boas, as a development associated in origin with the intensive use of the drill and compasses in working on bone and ivory. This motive is not

INDIAN NOTES

prominent beyond the horizon of Eskimo technology. The simple dot ornament, on the other hand, could arise from a technical process in which the simple awl or point-perforator is the common instrument. In such a case it is a motive with a very wide as well as deep distribution in the north where the extensive employment of skin, bark, and wood material, all of which involve constant use of the awl, is an outstanding characteristic of industrial life. This setting eminently accords with what we strike among the northern, and, at the same time, typical Algonkian populations.

FRANK G. SPECK

HABITAT OF LOUCHEUX BANDS

THE Loucheux Indians of Alaska and north-western Canada dwell farther north than any of the aborigines of North America, the Eskimo excepted. The larger bands live above the Arctic circle, and all of them above latitude 63° N. Their habitat extends along Yukon river between Stewart river in Yukon Territory, Canada, and a point a few miles below Chandelar river, Alaska, thence eastward from the Yukon to the Mackenzie, and northward to the Endicott mountains and the Mackenzie delta.

INDIAN NOTES

The writer spent the seasons between the spring of 1912 and the fall of 1916 on the Yukon, Porcupine, Crow, and Peel rivers in Alaska and Canada, during which period, and in 1917 and 1919 in connection with two trips for the Museum to the Canadian Arctic and Alaska, he gathered the following data from the natives.

The Loucheux are a branch of the great Athapaskan linguistic family. Their language resembles Chipewyan more closely than it does the intervening dialects of the Nahane, Hare, and Slave Indians of the Mackenzie watershed. They are more intelligent, and are of better physical development than the other northern Athapaskan tribes known to the writer. The tribe is divided into nine bands (pl. II), a band being known as *kutchin*, "people." The name of each band is distinguished by a prefix having reference to the locality in which it lives, to some peculiarity of dress, or other characteristic. These divisions are:

Along the Yukon, ranging between Porcupine river and the mouth of the Tahkandit, on the Yukon flatlands, are the *Kutchuk-kutchin*, "Ragged People," who, before the advent of white men, were compelled to wear their caribou-skin clothing until it became very ragged and dirty; for the barren-grounds caribou range only in mountainous country, and the migrating herds never

INDIAN NOTES

visit the Yukon flatlands, hence the Kutcha-kutchin were dependent on neighboring bands for caribou-skin to make their clothing. Dall¹ refers to them as somewhat nomadic, living principally by hunting and trapping the fox, martin, wolf, deer, lynx, rabbit, marmot, and moose. They are traders, making little for themselves, but buying from the tribes who use Fort Yukon as a common trading post.

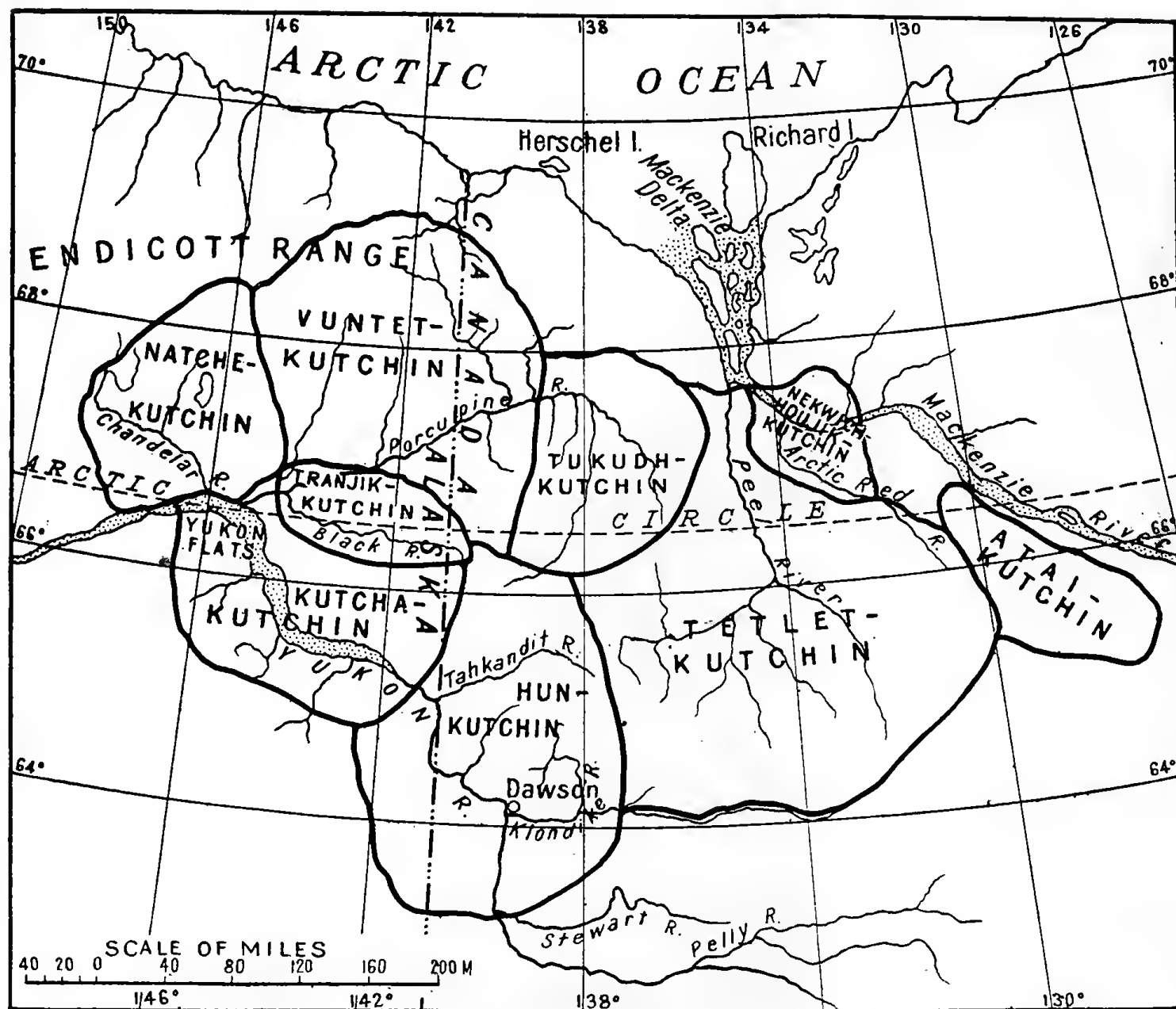
East and southeast of the Kutcha-kutchin, along the valleys of the Yukon and Tahkandit, and as far south as the mouth of Stewart river, range the *Hun-kutchin*, or "Hurry People," so named because of the swift current of the Yukon, which flows between great ramparts or cliffs in this district. This band was the *Gens des Bois*, the "People of the Woods," of the early Hudson's Bay Company's voyageurs. They were called Kolshina by Russian traders, who indeed applied the term to any Indians they did not know. Hardisty² claims that the first material change in language occurred among the Hun-kutchin, and that "they made use of many words in common with the *Mauvais Monde*, "Bad World People," of Francis lake, who are closely allied with and

¹ W. H. Dall, *Alaska and its Resources*, Boston, 1870.

² Smithsonian Report for 1866, p. 311, Washington, 1867.







DISTRIBUTION OF LOUCHEUX BANDS

INDIAN NOTES

speak the same language as the Nahaunies from the headwaters of Liard river."

Northeast of the Hun-kutchin, living in the mountain district at the headwaters of Peel river and along its banks, are the *Tetlet-kutchin*, a band now called Peel River Kutchin, the word *Tetlet*, of indeterminate meaning, being the name applied to Peel river before the coming of the whites.

Dwelling inland from Mackenzie river, in the high mountains east of the Tetlet-kutchin, are found the *Atai-kutchin*, "Mountain People," who, before white traders ventured into the north, seldom came down to the rivers. They subsisted principally on white mountain sheep and caribou, which were plentiful within their range. Informants claim that the Atai-kutchin men were always very large, and in ancient times were greatly feared by those of other bands when they came down to the lowlands of the Yukon in search of wives. They were called Ditcheta-utinne, "Strong Bows People," by the early Hudson's Bay Company's voyageurs.

Northeast of the Tetlet-kutchin territory, along the Mackenzie, from the mouth of Peel river to several miles above the Arctic Red river, are found the *Nekwichoujik-kutchin*, or "Big River People," so called because they lived along the banks of the Mackenzie, which is very wide at

INDIAN NOTES

this point. This band does not seem to have been noted by early writers, who perhaps considered them one with the Tetlet-kutchin, with whom they are closely associated.

Along the headwaters of Porcupine river and on Belle and Miner rivers, as well as in the mountains as far as latitude 68°N., are found the *Tukudh-kutchin*, or "Mother People." It is from this band that, according to native legends, all the Loucheux are believed to have sprung. They are noted moose-hunters and bow-men, and are supposed to have been greatly feared by the Eskimo, who never entered their territory when making forays against other Indians. At present only about twenty people occupy this district; these claim to belong to the *Tukudh-kutchin* band.

West of the *Tukudh-kutchin*, along the Porcupine, ranging northward to the Endicott foothills and southward to Hun-kutchin territory, are found the *Vuntit-kutchin*, or "Rat People," the largest of the Loucheux bands, who received their name from a legend in which the great chief of the muskrats chose their country for his home. Most of the great Loucheux chiefs are said to have belonged to this band.

Southward, along the headwaters of Black river, are found the *Tranjik-kutchin*, the "Cache River People," who take their name from the

INDIAN NOTES

number of caches or stages built along the stream on which they live. It was on the headwaters of this river that representatives of the bands met in council every few years in ancient times, and while there built the caches upon which they stored their food and belongings. The Tranjik-kutchin are famed as snarers of moose, building pounds similar to those used by the Vuntit-kutchin for capturing caribou on the barren grounds.

West of the Tranjik-kutchin, along Chandelar river and ranging well into the Endicott foothills, are found the *Natche-kutchin*, or "Strong People," who received their name because of their fine physique, and for this reason they were called *les Grandes Gens* by early voyageurs. They were noted for their expertness in dressing hides, and for the fine babiche and sinew which they brought to the forts for trade. Dall³ says of them: "Like all the Tinneh tribes, they are migratory. Their name means 'Strong People.' The first syllable of their name is sometimes spelled Natsit. They trade with the Eskimo of the northern coast, though barter is often interrupted by hostilities. They are few in number and live by deer hunting."

DONALD A. CADZOW

³ Dall, op. cit.

INDIAN NOTES

THE GROUND BEAN AND ITS USES

AMONG the additional specimens recently installed in the Museum's display of Indian foods is that of the ground bean, a plant most interesting in itself from its peculiar natural history, and especially because of its relation to the economic life of the Indians inhabiting the phyto-geographic range of the species, which is very extensive. From the important place which the ground bean held in the food supply of the tribes, and the interesting and unique manner in which it was obtained, it figures largely in the folklore of the region in which it thrives. Strangely enough, white people have never investigated its usefulness nor its possibilities of improvement under cultivation and selective breeding.

Many early travelers and explorers mention the use of the ground bean by Indians, but almost all of them are vague and uncertain of the nature and identity of the plant, and of the animal which harvests it. In 1804 it is mentioned in the Original Journals of Lewis and Clark (Thwaites edition, vol. 1, p. 187) that "Those people gave us to eate bread made of Corn & Beens, also Corn & Beans boil^d a large Been (of) which they rob the mice of the Prarie (*who collect & discover it*) which is rich & verry nurrishing. . . ."

INDIAN NOTES

The scientific name of the ground bean (fig. 80) is *Falcata comosa*; it is popularly called ground bean from its habit of producing one form of its fruits in the ground in manner similar to the peanut. The plant forms two kinds of branches, bearing two forms of flowers, producing two forms of fruits. Leafy branches climb up over shrubs, or, in the absence of support, form a tangled mass of vines. Upon these leafy branches are borne showy purplish flowers exactly resembling garden-bean blossoms in miniature. From these petaliferous flowers are produced small bean-pods about half an inch to an inch in length, which contain each from three to five small mottled beans about an eighth of an inch long.

From the base of the main stem of the plant the branches of the second form grow out in all directions, creeping prostrate on the ground under the shade of the overgrowth and forming a perfect network of colorless, leafless branches. The tiny, inconspicuous blossoms borne on these prostrate branches are self-pollinated, and push into the leaf-mold and soft soil, where each produces a single large bean closely invested in a filmy pod or husk. These beans are about the size of lima beans, or even larger, and are the ones which are so good for food and so greatly desired. When cooked they are of excellent

INDIAN NOTES



FIG. 80.—The Ground Bean (*Falcata comosa* (L.) Kuntze)

This illustration, reproduced by courtesy of the U. S. Bureau of Plant Industry, shows one leaf of the plant, nine underground beans at the left, and eleven shelled beans from aerial pods at lower right, with sixteen aerial pods above. Length of the lowermost underground bean, seven-eighths of an inch.)

INDIAN NOTES

flavor. But these desirable beans would be difficult to obtain were it not for the help of a certain species of small mammal (*Microtus pennsylvanicus*), commonly called meadow mouse, or bean mouse (fig. 81). These mice gather great stores of food for winter, certain roots and seeds, and most especially the ground beans. It is from this activity that the animal is called bean mouse.



FIG. 81.—The Missouri River Bean Mouse (*Microtus pennsylvanicus wahema*)

This animal was taken in her food store near Cannonball river, N. Dak., October 30, 1919, by Mr. Vernon Bailey, Chief Field Naturalist, U. S. Biological Survey, by whose courtesy the photograph is reproduced. (Extreme length of the mouse, $5\frac{1}{2}$ inches.)

The mice hollow out storage places in the ground, where they put away their winter supplies.

These stores of ground beans were eagerly sought by Indians of all tribes throughout the range of the plant, and they were grateful to the bean mouse for harvesting and storing the ground beans. But the Indians said they must not take away all the beans from the stores of the bean mice, for

INDIAN NOTES

it would be wicked to loot their stores and leave them destitute. They believed that if one were so hardhearted and unjust as to do so, such action would surely bring due punishment.

And the Indians said that when they went to seek the stores of beans laid up by the bean mice they must first prepare themselves in heart and mind. One must go on such a quest in all humility and charity, not only toward all humankind, but with a feeling of acknowledgment of the rights of all living things, plants and animals as well as human beings, and with a becoming sense of the interdependence of all living things. One must have a consciousness of one's debt to all Nature and to all the Mysterious Powers. One going on this quest must, as they said, "think only good thoughts and have a good heart; one must put away any grudge or hard feelings. And especially we should think," they said, "of our debt to the bean mouse for the favor about to be asked of it." Thus they approached the stores of the bean mouse, not as robbers of the weak and helpless, but humbly asking of the little animal a portion of its stores for their own need.

Among all tribes is found a strong popular feeling of affection and respect for the bean mouse. The Omaha have a saying that "the

INDIAN NOTES

bean mice are very industrious people; they even help human beings."

All persons of the Dakota (or Sioux) nation who have talked with me about the bean mice have always said that they never took away any beans from them without making some payment in kind, for it would be wicked and unjust to steal the beans from the mouse people without making any return. They therefore put back some corn, some suet, or some other food, in exchange for the beans they took. They said that thus both they and the bean-mouse people had the mutual advantage of a variety in their food supply. The Dakota have a popular story which exemplifies their attitude toward the bean mouse:

"A certain woman plundered the storehouse of some Hintunka people [bean mice]. She robbed them of their entire food supply without giving them anything in return. The next night this woman heard a woman down in the woods crying and saying, 'Oh, what will my poor children do now?' It was the voice of the Hintunka woman crying over her hungry children.

"The same night the unjust woman who had done the wrong had a dream. In her dream Hunka, the spirit of kinship of all life, appeared to her and said: 'You should not have taken the

INDIAN NOTES

food from the Hintunka people. Take back the food to them, or some other in its place, or else your own children shall cry from hunger.'

"Next morning the woman told her husband of this vision, and he said, 'You would better do as Hunka tells you to do.' But the woman was hardhearted and perverse, and would not make restitution for the wrong she had done.

"A short time afterward a great prairie-fire came, driven by a strong wind, and swept over the place where the unjust woman and her family were camping. The fire consumed her tipi and everything it contained, and the people barely escaped with their lives. They had no food nor shelter; they wandered destitute on the prairie, and the children cried from hunger."

One of the old folk-stories of the Omaha having for their purpose the inculcation of discipline and self-control in children, is connected with the ground bean and the bean mouse. It is a story which has points of likeness to the Roman story of Romulus and Remus. But in the Omaha story it was not a she-wolf, but a gentle, compassionate bean-mouse mother which was the foster-mother. It is a long story, and concerns the adventures of twin brothers. In their helpless infancy their father, a famous hunter, returned to his house one day to find that in his absence a monster had

INDIAN NOTES

killed his wife and that one of the twins was gone. The monster, after killing the mother, had carried away one of the babies and cast it in the woods, but the other he had left in the house, where the father found and cared for it when he returned. The one of the twins which was exposed in the woods was found and cared for by a kind old bean-mouse mother, who fed it on the best she had, which was ground beans from her food stores. So the twin brothers were reared separately until they were large enough to run about and play. The father, each day when he left the house, provided food for the boy during his own absence, and cautioned him against dangers and gave him directions as to his actions.

After his father was gone, he heard a voice singing:

“Younger brother, thou hast a father,
And so drink soup.
But I have no father,
And so I eat ground beans.”

Then he went to the door and looked out and saw a little boy like himself. He called to the other little boy to come and play with him, but it was long before he could overcome the shyness and timidity of his visitor. These visits continued day after day until finally the wild brother was captured and recognized by the father

INDIAN NOTES

as his lost son. Thereafter the twins were reunited and reared under the care and instruction of the father, and the two brothers had many strange adventures together, overcoming all their difficulties and dangers by courage, pluck, and determination. The purpose of the story is to teach boys to be strong-hearted, and to train their own powers of observation and of endurance, and also to teach the interrelation and interdependence of human beings and all the more lowly forms of life, both animals and plants, and to imbue a proper regard and respect therefor.

The bean mouse and its works are regarded with admiration and reverence by the people of the various Indian tribes which benefit by its labor. In the fall, after the bean mice have harvested their beans and laid them up in their storehouses for the winter, the people often go out alone and sit upon the lap of Mother Earth near some such storehouse in some quiet place under the open sky, reverently and thankfully meditating upon the mysteries of Nature and the bounties of Providence in Nature.

An old man of the Teton Dakota, living upon the Standing Rock reservation on the upper Missouri river, went out to the vicinity of a bean-mouse's storehouse to meditate and pray. Thinking himself to be alone in the presence of the

INDIAN NOTES

powers of Nature, the old man gave expression to his religious feeling in a prayer which was overheard and recorded by another man who was within hearing, but unobserved by the old man who was praying. The words of his prayer, when translated, may be rendered as follows:

"Thou who art holy, pity me and help me, I pray. Thou art small, but thou art sufficiently large, for thy place in the world. And, though weak, thou art sufficiently strong for thy work, for Holy Wakantanka constantly strengthens thee. Thou art also wise, for the wisdom of holiness is with thee constantly.

"May I be wise in my heart continually, for if an attitude of holy wisdom leads me on, then this shadow-troubled life shall come into constant light."

MELVIN R. GILMORE

PORCUPINE QUILLWORK FROM LOVELOCK CAVE, NEVADA

A TECHNIQUE in porcupine quillwork, hitherto unknown, was found during the exploration recently carried on by Mr. M. R. Harrington, of the Museum, in Lovelock cave, Nevada. This technique, known in basketry as wrapped twined weaving, consists of two warp stems crossing one another at right angles, bound together at the crossings usually with a water-softened element, wrapping a crossing, and passing to the next in a continuous twining. In basketry the warp

INDIAN NOTES

stems are usually of willow or of some such material. The stems standing upright are on the outside of the basket, while the crossing elements are inside. On the outside the turns of the



FIG. 82.—Fragments of porcupine quillwork shown from the front. (Slightly reduced)

wrapping are oblique, on the inside vertical. The specimens found in Lovelock cave are fragmentary (figs. 82, 83), and it is not possible to say what the objects were when complete. The material is a very soft cord of twisted fiber, suggesting bags

INDIAN NOTES

or pouches rather than baskets. The upright or outside strands are each composed of two fiber cords slightly twisted and seem to be wrapped together with a very fine thread (this is not

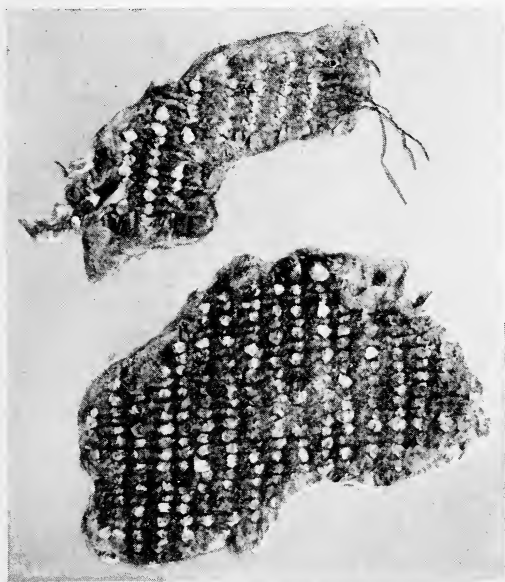


FIG. 83.—The reverse side of the quilled fragments. (Actual size)

absolutely certain, owing to the fact that the fibers are somewhat worn and frayed), making a flattened element about an eighth of an inch wide. The crossing or back elements are of single

INDIAN NOTES

threads of twisted fiber of varying sizes, the largest being about the diameter of No. 8 cotton thread. The vertical and horizontal elements are wrapped and bound together with flattened porcupine-quills (fig. 84). On the outside the quills are straight across, rather than oblique as are the wrappings in basketry. The drawing shows the

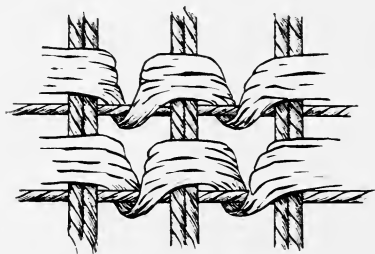


FIG. 84.—Detail of the technique of wrapped twined weaving with porcupine-quills as a wrapping element

work spread apart; in the finished product the elements are close together, the quills covering the cords when seen from the front. In making the turn over the horizontal thread, the quills were twisted and contracted so that the threads are not concealed on the reverse of the work. The surface of this weave presents a striking resemblance to the imbricated form of decoration used by the basket-makers of the Northwest. So far as the use of porcupine-quills is concerned, this technique has not been brought to our notice before.

WILLIAM C. ORCHARD

[190]

INDIAN NOTES

SOME SENECA MASKS AND THEIR USES

WHILE attending the annual midwinter festival of the Seneca Indians of the Allegany reservation in western New York during the first two weeks of February, it was the privilege of the writer to witness several performances of the Falseface Society, and later to obtain for the Museum an interesting series of antique masks and maskettes. Inasmuch as the Falseface Society and its paraphernalia have never been adequately described, although known to whites for two centuries, at least, the brief notes given here will be of interest as adding a little to our knowledge of the ancient rites of the Iroquois, many of which are still actively performed.

On the afternoon of February third, while visiting at the home of Mrs. Alice White, of the Wolf clan, close to the Long House at Cold Spring, there was a sudden bustle of excitement. Looking out of one of the windows, two men clad in nondescript garb, wearing wooden masks and with their heads completely covered with cloth throws, were seen approaching from the general direction of the Long House. They bore in their hands rattles made from the shells of the snapping-turtle, the extended skin of the neck and the skull of the animal being stretched over a piece of wood for a handle.

INDIAN NOTES

It was immediately whispered that the "False-faces" were coming to doctor a young girl in the family, who had long been ailing, and preparations were at once made to receive them. A room was cleared and a bench placed in the middle. A man named John Jimerson straddled the bench, and, keeping time thereon with a billet of wood, struck up a song. The masked figures approached the door and made several feints to enter, scraping the doorposts and lintels with their rattles, which they also shook continuously, while they occasionally gave the peculiar cry, "*Hoⁿ-hoⁿ-hoⁿ-hoⁿ-hoⁿ-b!*" characteristic of their kind, for it is said that it is taboo for a masked dancer to make utterance in any other manner. The masks themselves, however, are credited with the power of speech, as are the beings which they represent, and into whom the masqueraders are supposed to be transformed by the simple process of donning the falsefaces.

After thrusting in their heads and withdrawing a number of times, the Falsefaces finally entered, danced about the bench for a few moments where Jimerson was singing, and then seized a very modern-looking young girl, whose bobbed hair, high-heeled shoes, and short skirt seemed incongruous in the circumstances. Dragging her over to the stove, they brandished the turtle rattles

INDIAN NOTES

over her many times, then thrust their hands into the ashes, and rubbed and blew them into her hair, thus exorcising the demons of illness with which the girl was afflicted. She was then led by them in a short dance around the bench, and the Falsefaces retired, first going to the kitchen, where they were given each a pail of "Falseface" pudding, a special preparation of parched cornmeal with sugar, which is considered especially appropriate to the Falsefaces and is made to reward them for their services on just such an occasion as this. The masqueraders then departed with their food to eat in private, for they are not supposed to unmask publicly. Indeed the organization to which they belong is nominally a secret one.

Another interesting observation on the Falsefaces which the writer had the opportunity to make, and one which, so far as he is aware, has not hitherto been recorded, is the use of a drink made from the dried and ground seeds of the sunflower, or *gaweaⁿsaⁿta*. This liquid, called *noxkwašagi* (translated as "Falseface medicine-water"), was formerly carried about by the performers from house to house and administered to the patients about to be doctored. It was sometimes provided also as a beverage by the families where the Falsefaces visited.

INDIAN NOTES

It may be remarked that sunflower-seed oil was formerly much used for seasoning Falseface pudding. The seeds were fried or roasted until they cracked, then were placed in a bag and the oil freed by pounding either in a wooden mortar or between two stones. The oil was used also to season corn soup, and boiled cornbread was dipped in it as we might use drawn butter.

The evening after the doctoring rite had been performed, while the usual social dances were in progress in the Long House, loud but mysterious noises were made by the Falsefaces circling the building outside and rubbing their turtle rattles along its sides. These noises finally culminated in an unusual outburst at each of the doors, placed at opposite ends of the structure, and the same kind of pretended entries were made as at Mrs. White's home. The two masqueraders would open the door, thrust in their heads, and withdraw. Suddenly, as at a given signal, both burst in at once and ran crouching, or on all fours, through the Long House, each passing out again at the door opposite the one by which he had entered. They soon returned, and then began wandering about upright, apparently aimlessly, uttering their characteristic grunts and soliciting gifts of tobacco by signs.

A masquerader wearing a hideous black mask

INDIAN NOTES

with pouting lips approached the writer, and pointing to his mouth, poked him with his rattle to attract attention. Having come unprepared with the necessary tobacco, the writer handed the Falseface a coin, whereupon the turtle rattle was thrust into his hand and he was told by unmistakable signs to shake it. Obeying the mandate, the Falseface was not yet satisfied, but, with more nasal grunts, pointed to his ear, by which the writer rightly guessed that vocal music was lacking, so he struck up a Menomini song, which fortunately proved satisfactory, and the masquerader danced energetically.

After the possibilities of tobacco seemed exhausted in that quarter, the two Falsefaces scuttled over to the women's end of the Long House and again seized the girl who had been doctored that afternoon, dragged her to the stove, and again doctored her as before, dancing with her for a time and then disappearing.

Later in the same evening the members of the still less-known Huskface Society appeared in force at the Long House, their arrival being heralded by the simultaneous entry of two members from the opposite doors as with the Falsefaces, but the heralds were far more active. They bore peeled poles in their hands and ran at full speed, leaping and bounding into the air, and slamming the doors as they dashed out.

INDIAN NOTES

Shortly afterward the rest of the masqueraders appeared and danced in company. Five or six of the performers appeared to be men, the rest, about equal in number, were at least dressed as women, but on this point the writer cannot be certain, as some of the women who sat with Mrs. Skinner at the opposite end of the Long House assured her that the supposed females were in reality men in disguise. After a time the leaders, who bore the poles and had previously acted as heralds, began to go about, take persons from the audience by hand, and lead them over to take part, two of either sex dancing alternately with two of the Huskfaces. Mrs. Skinner and her Seneca woman informant were thus enlisted, and just at the conclusion of the dance the writer also was pulled to the floor. The impression given was that as an organization the Huskfaces are holding their own much better than are the Falsefaces at Allegany. It was impossible to obtain a single example of the masks, but fortunately there are a number of these interesting objects in the Museum collection.

Mr. Arthur C. Parker, Director of the Rochester Municipal Museum, who has made extended observations among the Seneca, has furnished some further information concerning the rites of the Huskfaces, which shows some variation from the

INDIAN NOTES

ceremony seen at Allegany, but which throws interesting light on the performance observed. The variations may be local, differing on the several reservations.

"The Huskface company comes into the Long House late in the Falseface ceremony, the leaders rushing in with garden tools. The figures clad as women are all men, as are the *iagentci* and *hagentci*—old woman and old man. These two execute a strange dance as they lean over on canes. Their song is, '*Hyuh, Hyuh, ganiuhgwaieh*,' ('Hyuh, hyuh, roundabout'). When the dance is in progress, any person who desires the influence of the *Hadigadjisashoob* (Huskfaces) may join the dance."

It is said that the Huskface Society doctors the sick, as do the Falsefaces, but that they use water instead of ashes in effecting their cures.

Both the Huskfaces and the Falsefaces are supposed to represent a supernatural race of bodiless beings who reside at the four quarters of the universe. There are a number of types of masks, each representing a special variety of these beings and each with its own story. Of these stories only one has ever been narrated to the writer by the Indians, and this he obtained from a Mohawk a number of years ago. It accounts for the style of mask with the crooked or twisted mouth, a

INDIAN NOTES

particularly hideous variation of which is made at Allegany and is illustrated in the specimen shown in fig. 85.



FIG. 85.—Seneca mask of the twisted-mouth type

Raweniyu, the creator, having finished the making of the earth, was engaged in walking over its surface to inspect it, when he met a Falseface being, or Flying Head. The latter brusquely demanded of Raweniyu what he was doing, and the creator remarked that he was looking over his work. This angered the Falseface being, who assured Raweniyu that the earth was his, since he had been on it

ever since it had existed. To show his power, he commanded a mountain, which arose from one side of the valley in which they were at the moment, to come to them, and the mountain did as it was bidden. Without further words Raweniyu then said to the Falseface being, "Turn around!" As

INDIAN NOTES

the being obeyed, Raweniyu caused the mountain behind them to move up to them so swiftly that the Falseface being struck its face against it as he turned, forever disfiguring him. The being then admitted the superiority of the creator, and begged for mercy. This the creator granted, but banished the whole race of beings of this nature to the four ends of the earth, where they are still permitted to dwell on condition that when called on by mankind they will return and imbue with their power those who wear masks representing them, so that sorcerers, and diseases caused by sorcery or by other disease demons, may be exorcised.

It is said that the right to make certain types of masks inheres only in certain individuals, and is handed down from father to son.

Membership in the Falseface Society can be obtained only through the media of dreams, and may be resigned only by the same method. The members do not attempt to incubate or to force dreams of this nature: they are spontaneous, and may come at any time. There are, however, many masks among the Seneca which seem to have no connection with the rites of this society, and these are often possessed by persons who do not seem to be members of the organization.

About these masks the Seneca are naturally most secretive, and it is very hard to learn of their

INDIAN NOTES

existence, or to see them; hence information concerning them is almost impossible to obtain. Except for the writings of Mr. Arthur C. Parker,¹ practically nothing has ever been published in regard to them. To our meager store of knowledge the writer can add the following particulars:

Some masks are kept as family guardians. They do not appear in public, and, so far as could be ascertained, are never worn. Fig. 86 illustrates an excellent example of this type of mask, obtained from Mrs. Lucy Logan, or Gendai'yua', of the Snipe clan, now 94 years of age. It was made long before her time at the old Seneca settlement at the Horseshoe bend of the Allegany, and its age is estimated at a century at least. This mask is believed to possess the power of prophecy, and when danger threatens its possessors it speaks aloud and warns them.

There seem to be clan masks which may also belong to the secret, or as the Indians say, "Hidden," class, representing the clan animals—at least, the writer was shown one such. Their use is not known. Other blind masks are used in the rites of the Idos Society. They have no eye-holes, but the wearers have magic power to

¹ See particularly his *Secret Medicine Societies of the Seneca*, *Amer. Anthropologist*, vol. 11, 1909, p. 179 et seq.

INDIAN NOTES

see themselves. They do not appear in public. The tiny maskettes (figs. 87, 88) are of this class.

Among the properties ascribed to all falsefaces, not necessarily the "Hidden" masks alone, are



FIG. 86.—Ancient Seneca "Hidden" or "Secret" mask of wood

the following: Some masks know in advance when they are to be used in doctoring, and beads of sweat are seen upon them. Others perspire when disaster is about to befall their owners; they also refuse to hang straight under these cir-

INDIAN NOTES

cumstances, or when they have been offended in some way. One mask is reputed to have had the power to sweat blood as a warning of impending peril. Some fall from the wall under such circumstances, and some drop down to announce to the family of the owner the death of that individual, should it occur away from home. One noted antique mask at Cattaraugus was supposed to have been able to instruct other and newer masks, and was in demand to put under cover with them so that it might impart its knowledge and virtue to them.

All masks, it is said, should be carved from the trunk of a living tree, that they too may be alive. Masks made in this way are particularly puissant. No one should mock at a mask, nor speak disrespectfully of it or to it. In revenge a mask may cause an offender's face to become distorted like its own. Especially is this true of the crooked-mouth masks. The same result can be obtained by a member of the society who, by casting tobacco in the fire and making the proper incantation as the smoke rises, can contort a person's face.

Some falsefaces are notoriously bad-tempered, or hard to please, and are constantly afflicting people who offend them, usually in small ways. Such masks are called "poison" and are much

INDIAN NOTES

dreaded, great care being constantly taken to placate them. A man who discovers that he has a mask with this disposition is put to no little anxiety and trouble on this account.

A certain new black mask formerly belonged to a young Allegany Seneca man of the Beaver clan, well known to the writer. This mask was made, though not, I understand, from a living tree, by a man who was visiting Rochester with a party of "show" Indians. The man was not a member of the society, nor had he any right to make a falseface. He carried it back, incomplete, to his home on the Cattaraugus reservation, where it lay for some time unfinished. One night, quite without warning, it appeared to its owner in his sleep, demanding that it be finished before a rapidly approaching date. The Indian hurried and completed his task, and on that evening, to his surprise, the Falseface Company appeared at a neighboring house to doctor a sick person. Impelled by some mysterious urge, he put on his mask and joined them, and has been a member of the society ever since.

This particular mask is notoriously "poison" and "mean." It has to be handled with the utmost respect, and requires tobacco sacrifices from time to time. It must be worn and used in the society's rites at least once in every two years, or it will manifest its displeasure painfully.

INDIAN NOTES



FIG. 87.—Seneca tiny charm masks, including two of the "blind" or eyeless kind. (Actual size)

INDIAN NOTES

Quite as commonly found among the Seneca as the large masks are the miniature examples, or maskettes, of which those shown in fig. 87, *b*, *c*, and 88 are unusually good and antique examples. Like the large "Hidden" mask they were ob-

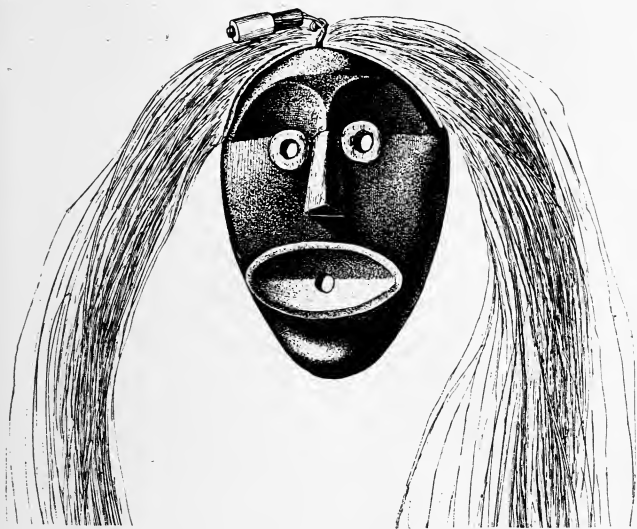


FIG. 88.—Seneca tiny charm mask with wampum message attached. (Width of face, $1\frac{5}{8}$ in.)

tained from Mrs. Lucy Logan and are supposed to be a century or more old. Originally, it is claimed, there were four of these masks, but one was "witched" on the eve of its sale to the writer and disappeared. Attached to the top of

INDIAN NOTES

the best example, shown in fig. 88, may be seen two wampum beads, one white and the other blue, which are said to have been a "message" sent long ago by one band of Falsefaces to another, and now forgotten. The masks illustrated in figs. 87 *a*, *d*, are of the "blind" variety, having no eye-holes, and perhaps represent Idos masks.

The exact uses of these maskettes are imperfectly known. They are certainly general good-luck charms, and are said to be especially helpful to a woman expecting the birth of a child. They are sometimes seen fastened to so-called "female" or "maternity" masks, and one is attached, together with a tiny snapping-turtle shell rattle and a corn-husk tobacco-offering basket, to the pole sometimes carried by the leader of the Falsefaces during ceremonies. In the Museum collection there are some examples carved from stone, recorded as collected from the Seneca. Some of these maskettes, as well as the large masks, have tiny packets of Indian native tobacco attached for the purpose of pacifying them.

Much yet remains to be discovered about the Falseface societies of the Seneca and the other Iroquois; for instance, why their conventional coloring is always red or black, or, in the case of some of the Secret masks, the color is divided

INDIAN NOTES

longitudinally, half being black and the other red. About the Huskfaces, as has been said, our knowledge is almost nil, except for the observations of Parker in the article above cited. However, in the scope of this brief note the writer has been able to give only a few facts from first-hand observation in the field, which he hopes may stimulate other students with better opportunities for observation among the Iroquois to present a detailed account of these interesting phenomena, with special reference to the antiquity, history, and rites of the Falseface and Huskface societies.

ALANSON SKINNER

INDIAN WELLS ON LONG ISLAND

EASTHAMPTON, at the eastern end of Long Island, was settled by the English in 1648 on lands acquired from the Montauk Indians, yet there still remain in the vicinity three trunk-lined "Indian wells" that in all probability served the native inhabitants, in very much the condition in which they are found today, before the coming of the whites.

The first mention of the Indian wells, made in 1652, is found in the Town Records of Easthampton, in the second allotments of land "from Hook

INDIAN NOTES

Pond to Indian Well." Again, in 1668, reference is made to land lying "east of the Indian Well," and in the same year a tract of four acres is described as bounded by Thomas Diament's land on the east and Thomas Hand's land on the west—the Hand after whom Hands creek was named.



FIG. 89.—One of the Indian wells at Hands creek, Long Island

Three of these Indian wells still exist near Easthampton—two at Hands creek and one on the beach at Three Mile Harbor near Northwest (figs. 89, 90). A former well at the village of Amagansett, seven miles away, is mentioned traditionally by Tooker, in his *Indian Place Names on Long Island*, as follows:

"A depression in the ground running for some

INDIAN NOTES

distance north and south through the village is occasionally mentioned in the records as the Indian Well Hollow and is still so called. Isaac Schellinger, a descendant of Abraham Schellinger, one of the early settlers, now [1890] aged about 80, says that tradition, as handed down to him,



FIG. 90.—The Indian well on the beach at Three Mile Harbor, Long Island

located the Indian Well near the United States Life Saving Station, on land now belonging to Mrs. Benjamin Terry. The well was probably the hollow trunk of a pepperidge tree (*Nyssa multiflora*) sunk in the meadow that adjoins the upland."

Except for slight variation in size, the three

INDIAN NOTES

wells at Easthampton are similar in appearance. A section of a large tree trunk, six to eight feet in length, was hollowed out (probably by the same process as that employed by the Indians in fashioning their canoes), forming a cylinder 15 to 17 inches in diameter, which was sunk or driven into the bubbling spring, in much the same way, no doubt, as the Rappahannock Indians of Virginia lined their wells in very recent times.¹ The trunk of the Hands creek well is pine or cedar, while that of the well at Three Mile Harbor is birch.

The wells are situated within the tidewater area, hence their waters were potable only during low tide. Whether, from their situation, the wells were protected from pollution or from poisoning by enemies, cannot be positively said; yet the fact remains that there are numerous nearby unlined springs not subject to overflow by the tide and therefore usable at all times. A suggestion that these tidewater wells may have been maintained for use in times of stress is offered by another reference in the Town Records, under date of October, 1660, to the effect that, on petition of the Montauk Indians, owing to the cruelty of the Narragansett and their further

¹ See F. G. Speck, *The Rappahannock Indians of Virginia, Indian Notes and Monographs*, vol. v, no. 3, p. 42, 1925.

INDIAN NOTES

threats, the Commissioners of Connecticut decreed that if any Narragansett went within six miles of Southampton, Southold, or Easthampton, the English inhabitants should remove them, thus indicating the need of protection by the Montauk against the inroads of their enemies.

FOSTER H. SAVILLE

CROW LOVE MEDICINE

A RARE object obtained by the writer from the Crow Indians for the Museum is a love-medicine blanket (fig. 91). This "medicine" was originated by a Crow named Fog, and the story of its origin, transmitted to its last owner, Bear-Below, from whom the specimen was procured, is as follows:

When Fog was twenty to twenty-two years of age he went to the mountains and fasted. On the morning of the fifth day he had a vision in which a bull elk, coming through a river, appeared to him. The elk walked to the edge of the timber and halted in front of Fog, where it became transformed into a man.

The Man-elk spoke to Fog, saying, "I am the Medicine Elk; whenever I want a woman, I can make the one I love best come to me."

INDIAN NOTES

As he spoke, the Elk person paraded in front of Fog, turning his body to left and right. He was

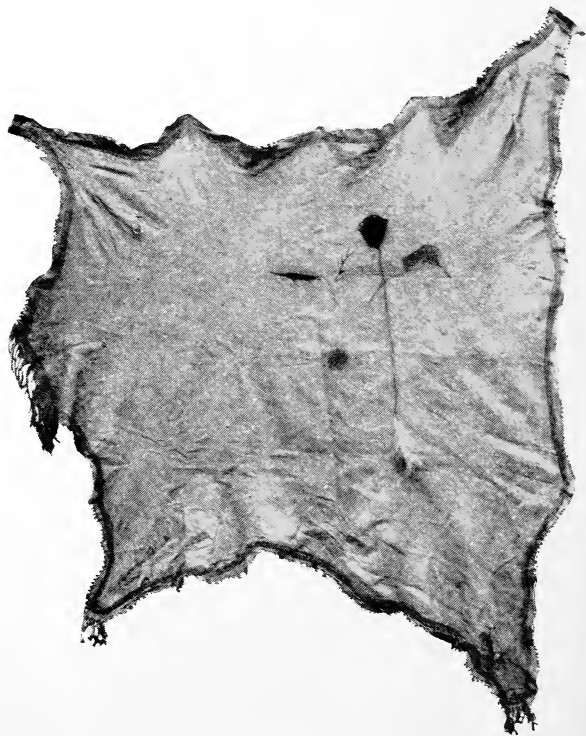


FIG. 91.—Crow love medicine

wearing a painted elk-robe, and sang, "I am Medicine Elk; I am staying in the mountains."

INDIAN NOTES

Then as the Elk person sang, a female otter emerged from its hole near the river, and, coming closer, changed into a woman and stood beside the Elk.

"When you want the woman you love to come to you," said the Elk to Fog, "do as I have just done. Make a blanket of elk-skin, paint it like the one I am wearing, and parade in front of the woman you want. Sing the song I have just given you, and she will come to you. Before wearing the blanket, however, smudge it, as well as yourself, with the smoke of mountain holly."

On returning to camp, Fog made a blanket and painted it in accordance with the vision.

The yellow spot in the center of the blanket is the symbol of the female otter's nest. The otter also is represented on the blanket, and a blue stripe extends from it to the elk to represent the path taken by her. The eagle-plume attached to the elk's ear, fastened on the blanket, represents the body of the elk, which gave the vision to Fog. The fanning of the plume by the wind symbolizes the turning and parading of the male in front of the female. The yellow-painted border of the blanket represents the magic circle from which the female cannot escape.

Fog is said to have used this blanket successfully, and also to have lent it on many occasions

INDIAN NOTES

to other Indians for similar purposes and with equal success. After his death the medicine was inherited by an elder brother of Bear-Below, the latter having inherited it on his brother's death.

WILLIAM WILDSCHUT

JIVARO DANCE REGALIA

PERHAPS the most striking specimens recently received by the Museum consist of the paraphernalia used in one of the tribal ceremonies of the Jivaro Indians, who inhabit the forest region of the rivers Pastaza, Morona, and Upano-Santiago and their tributaries, from the interior of Ecuador into Peru. The warlike character of the Jivaro has retarded the exploration of much of their country, hence a great deal is still to be learned concerning the tribal customs, and especially the ceremonies. For this reason little is yet known in regard to the dance regalia shown in the accompanying illustrations (figs. 92-94) or of the rites in which such are used. The objects consist of a breast ornament, a short apron or kilt, arm-bands, leg-bands, necklaces, head and hair ornaments, a spear, blowgun and darts, and a small bow. The breast ornament, which hangs from the neck almost to the knees, is made of beaten palm-bark having a soft cloth-like tex-

INDIAN NOTES

ture, and is so ornamented with brilliant feathers outlined and bordered with "Job's tears" and with bean and other highly-colored seeds, interspersed with short tubular beads made of birdbone, as to form a grotesque human head, probably that of a warrior. The exposed parts of the bark cloth are painted with designs in bright red to represent the facial decoration of the personage, and the whole is further ornamented with a fringe of strung seeds having a parrot-feather attached to the end of each string.



FIG. 92.—Jivaro ceremonial regalia on a model posed in the Museum

INDIAN NOTES



FIG. 93.—The pendent head-dress of the Jivaro. The model is sighting a short blowgun and wears a dart quiver below the hip

INDIAN NOTES

The kilt, or apron, is made in the same manner and of like materials, with the addition of a painted and incised gourd shell arranged as the central piece of the ornamentation. Like the breast ornament, the arm-bands are made of beaten bark adorned with seeds. The leg-bands consist of braided cord, attached to which are large seed shells which served also the purpose of rattles. One necklace is made of closely braided strands of human hair, another is of toucan-beaks.

The head-dress is a crown of upright black feathers banded with white breast plumage edged with crimson, supported on a frame of basketry. Another ornament consists of a woven cotton band, worn as a fillet beneath the crown of feathers. Attached to this fillet at the rear and falling below the waist is an ornament composed of a number of long tubular beads made of bird-bones arranged in rows, with a line of black seeds between each row. The lower extremity is decorated with bronze-green wing-sheaths of a species of tropical beetle, and with seeds and feathers.

A photograph of a Jivaro wearing the regalia not being available, the various articles are displayed on a model for the purpose of affording a slight impression of their appearance; but the gorgeous array of colors must of course be left to



FIG. 94.—Jivaro breast ornament decorated to represent a human face

the imagination. The crimson of some of the feathers and seeds predominates, but other feathers are yellow, green, and blue, with all the intermediate shades, imposed on the soft tan background of beaten bark, or suspended therefrom. Worn by an Indian against his warm-brown skin, the effect of this savage array must be striking indeed.

These objects, with others illustrating the Jivaro culture, will be dis-

INDIAN NOTES

played among the collections of the Museum pertaining to the tribes of northwestern South America.

WILLIAM C. ORCHARD

CARAJA AND CAYAPÓ ARTIFACTS FROM BRAZIL

BEAUTIFULLY fashioned feather head-dresses, ingenious and terrible weapons, strange little images, implements and ornaments that characterize the lives and customs of the Caraja and Cayapó Indians, hitherto little known tribes that live in Matto Grosso and Para, the hinterland of Brazil, have been brought to the Museum by the writer, who has spent more than four years in this little-known region of South America.

The Cayapó maidens wear narrow fillets of reed upon which are bound the short, curved feathers from the breasts of parrots, with short quills protruding in front. Some are of red and some of yellow feathers, the latter resembling fluffy halos. Occasionally the Cayapó find feathers of mixed red and yellow, not unlike striped tulips of those colors, and with these the women make fillets of exquisite beauty (fig. 95). Others are made by binding a number of short pieces of polished bamboo to a reed, topping them with iridescent feathers, and adding a long gray-white

INDIAN NOTES

plume from the South American ostrich (fig. 96). One especially striking piece of headgear is a Cayapó cap fashioned of a network of pliable grass, vaguely reminiscent of a woman's hairnet (fig. 97). It has a shock of small yellow quills fastened to the center of the crown and surrounded



FIG. 95.—Cayapó head-dress

by several rows of small red feathers grouped together to form flowers, with small knots of grass for centers.

Picturesque and very effective are the seven- and eight-foot spears with which the Caraja go on the warpath (fig. 98). The spear-heads are made of the thigh-bone of the jaguar, and pointed;

INDIAN NOTES

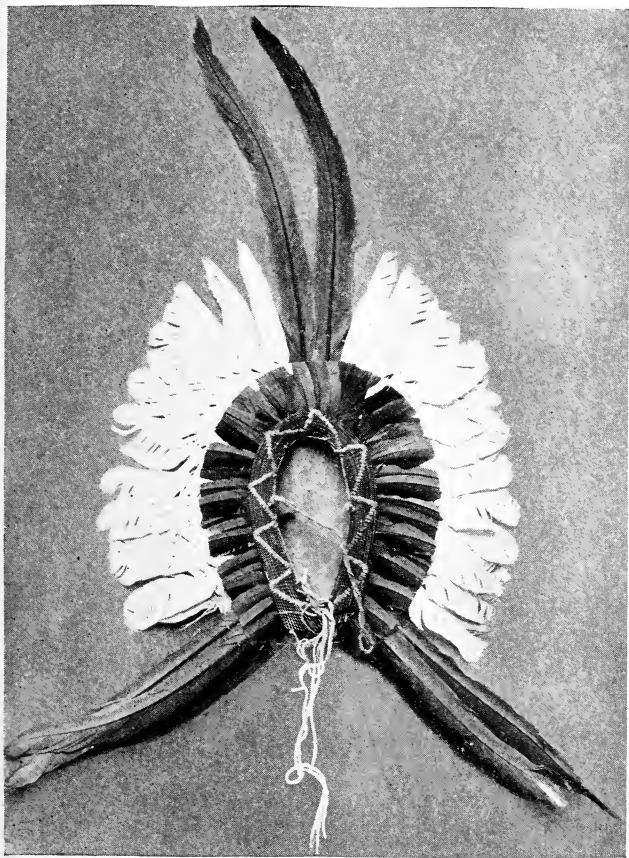


FIG. 96.—Cayapó head-dress

INDIAN NOTES

a cluster of feathers hanging below the point guides the spear unerringly when flung at its victim. The spear-shafts are beautifully decorated with a covering of black and white cane-



FIG. 97.—Cayapó head-dress

work woven in intricate designs. No two of these woven handles are of the same pattern, but they all represent the various markings of snakes.

The bow and arrow are a favorite weapon with both the Cayapó and the Caraja. The bows, six feet long, are stoutly made of palm-wood, and are strung with the strong hand-spun cord of wild cotton,

with the ends cunningly wrapped to the bow so that the string can be lengthened or mended according to the hunter's needs. Arrows are of wide variety and are used for many purposes, but all of them have long bamboo shafts

INDIAN NOTES

skilfully feathered at the end. The arrowheads are fastened to eighteen-inch foreshafts of hard-wood tipped with bone, fitted in three- to four-foot bamboo shafts and bound in place with the strong cord that the native women spin from wild cotton. The binding is firmly cemented with a kind of resin. Long needle-like arrows tipped with hard-wood are for shooting birds; the sharp bamboo tips curved hollowly are for deer and jaguars, for they permit the wounded animal



FIG. 98.—Caraja objects (grave-post, two spears, and a paddle)

INDIAN NOTES

to bleed freely in order that it will weaken before it can travel far. Barbed arrows are used for killing monkeys and shooting fish. The tail of the sting-ray is also used for tipping arrows.



FIG. 99.—Cayapó rattle

Formidable objects are the clubs that the Caraja tribesmen use to kill captives, as well as members of their own tribe who have broken taboo or who are too old to make the periodic migrations. These clubs vaguely resemble a baseball bat, except that they are heavier and a trifle thicker at the end. They are made of hard-wood, the long handle decorated with a beautiful covering of black and white woven canework in designs similar to those of the spears,

and the heavy end is stained a sinister red with the juice of the urucú-berry and the blood of its victim.

The Cayapó clubs are of the same heavy wood,

INDIAN NOTES

and have similar woven cane-covered handles, but are for more specialized use. Instead of a blunt round end, the club has a flat triangular wooden blade pointed at the end with sharp sides and stained with urucú. It is used, in the manner of a great ax, for decapitation.

Toy canoes (fig. 100), with which the Caraja youngsters play, are models in miniature of those their elders use, which are made from hollowed or

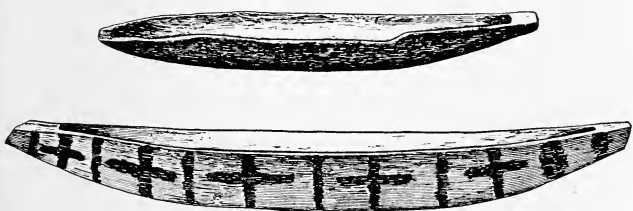


FIG. 100.—Toy canoes of the Caraja. (Length, 19 in. and 26 in.)

burnt-out logs. They are decorated with designs colored with a black stain from the genepapa fruit and the urucú. Paddles (fig. 98) are of regulation length, but some have unusually wide blades often decorated in red and black designs.

Most curious of the collection are the little clay dolls (fig. 101), which may have some connection with magic or with religious observances. They vary in size from two to twelve inches, and are similar in workmanship and even

INDIAN NOTES

in spirit to little clay images from excavations in Crete and Asia Minor. They are male and female figures, the latter made with exaggerated hips and lower limbs. Though the little faces



FIG. 101.—Caraja images

of the figures are crudely modeled, the head-dress and the manner of wearing the hair are faithfully reproduced. In some instances the hair-dressing is identical in style with that of the little

INDIAN NOTES

images found in the Old World. Though the little figures are usually nude, occasionally one is adorned with bits of red-colored home-made cotton twine.

FRANCIS GOW-SMITH

ANCIENT SALT MINE NEAR ST. THOMAS, NEVADA

EXPLORATION of Salt Caves, owned by the Virgin River Salt Company, near St. Thomas, Clark county, Nevada, promises results of unique scientific and historical interest; for although archeologists have studied ancient Indian flint and soapstone quarries, and hematite, turquoise, and mica mines, so far as the writer knows no aboriginal American salt mine has ever been explored or described. The work is being conducted by the writer in the interest of the Museum in coöperation with the State of Nevada and under agreement with the owners.

At this writing (April 20, 1925) our party has commenced excavations in the largest chamber of a cavern in the northern end of the salt deposit, reached only by a long, low, underground passage—a water-course. From this one ascends through a hole in the roof of the tunnel, perhaps a hundred yards back in the heart of the moun-

INDIAN NOTES

tain, into the great dark chamber, smelling strongly of bats, a room in the salt measuring perhaps seventy-five feet north-south by forty feet east-west. The other five chambers, all connected with this, are smaller.

The first thing that strikes the visitor's eye as he looks about the cavern by the light of his miner's carbide lamp, is the presence of dozens, possibly hundreds, of circles and ovals decorating the walls, outlined by grooves pecked into the solid salt and ranging from a foot to eighteen inches in diameter. It was at first thought that these were pictographs made for some ceremonial purpose, and that the ancient people responsible for them might have used the cavern as a place of worship; but our excavations, so far as they have progressed, tell a different story.

We find that the floor of the chamber is simply a bed of salt-mine refuse, ranging from four or five feet to a depth of eight feet six inches, and consisting mainly of salt-dust, granular bits of salt, and lumps of rock-salt of varying sizes. There are a few loose rocks, some light dust, and a little bat guano.

Mixed throughout this mass are countless little sticks, all burnt at one end, doubtless the remains of aboriginal torches, and scores of stone hammers for mining salt, some notched for the attachment

INDIAN NOTES

of a handle, some without notches but often chipped to a point or an edge, evidently intended to hold in the hand. Strings made of the coarse hemp-like fiber of the Spanish bayonet, or yucca plant, and others of the finer fiber of a species of milkweed, are common, and were probably used for tying the dry sticks to make torches, as well as to bind the wooden handles of the stone hammers. In fact, two notched hammers were found with the wooden handles still in place—limber sticks bent around the hammer-head and tied fast with yucca strings—and these are the rarest specimens thus far recovered. There are also fragments of the stout fiber sandals worn by the ancient miners; corn-cobs—mute reminders of the “roasting ears” they brought in for their lunches—and hundreds of quids of sweet mescal fiber chewed by the ancients as we chew gum or tobacco.

But the specimens which explain the meaning of the circles on the cave walls are numerous rounded fragments of salt showing the same marks of pecking seen in the grooves outlining the circles. It seems evident that the ancient miners, unable to break salt loose from the flat face of the outcrop with the tools at their disposal, pecked these circles in the salt face with their rude stone hammers until the groove became deep enough to

INDIAN NOTES

form a central knob; then this knob could be readily broken out and carried home for use.

A beautifully made arrowpoint of black obsidian, a fragment of pottery, and a few other little things not directly connected with salt-mining have been found. Just as most of the floor deposit consists of salt-mine refuse, fully nine-tenths of the human products found were used directly in the mining operations or were connected with the footgear, dress, or habits of the miners, or with the lunches they brought in from outside.

In short, we may safely say that this cavern, which we have named Salt Cave No. 1, was used mainly, if not entirely, as a salt-mine.

The question naturally arises: Why did these old people take the trouble to go so deep into the heart of the mountain to get salt, lighted only by rude brush torches, when there were plenty of outcroppings outside where the work could be done in daylight, and was done, as hundreds of stone hammerheads testify?

The answer can only be guessed, but the conjecture may be based on Indian modes of thought. Perhaps they went into the dark cavern to mine salt because they believed that the salt obtained in such a mysterious place might possess a special virtue of some sort.

INDIAN NOTES

Who were the ancient salt-miners? Certainly they were Indians, but of what tribe or culture we cannot yet tell. The single potsherd found does not show enough character to serve as a clue, but further work will probably answer the question, and may also give us some hint as to the age of the ancient salt mine.

M. R. HARRINGTON

A SENECA ANTIQUE TOBACCO PIPE

THE small terracotta pipe shown in fig. 102 is of the lined-bowl type not uncommon on archeological sites of the Iroquois of the early Colonial period, but owes its special interest to the fact that it is said not to be an archeological find, but a "left-over" from earlier times long in possession of an Indian family formerly resident on the Cornplanter reservation in Pennsylvania.

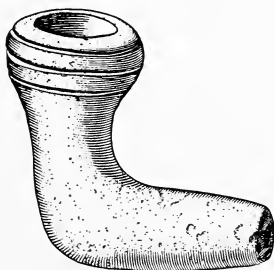


FIG. 102.—Seneca antique tobacco pipe ($\frac{1}{2}$)

The pipe was obtained from Mrs. Mary Titus, a Seneca woman of the Beaver clan, who declared it to be an ancient type and gave the foregoing information. So far as the writer is aware, there

INDIAN NOTES

are no recorded early Iroquois sites on the Alleghany reservation, New York, where the pipe was obtained, the only sites of which he has any information being either Algonkian or "Mound-builder" stations. A similar pipe, but with the addition of a tubular bone mouthpiece, is in the State collection at Albany, and, if the writer is not mistaken, is catalogued as a Seneca pipe obtained by Lewis H. Morgan when still in use, many years ago.

ALANSON SKINNER

MR. VERRILL'S SABANERO-GUAYMI TRIP

MR. A. HYATT VERRILL recently returned to the Canal Zone from a long trip to the Sabanero and Guaymi Indians of Panama, among whom he gathered a very comprehensive collection of ethnological objects, to which are added a bark dance costume from Coclé, Panama (fig. 103), and a few specimens from the Pano tribe of Bolivia and the Changa of northern Peru. This trip was the roughest and hardest of the many that Mr. Verrill has undertaken, not the least of his hardships being the fever he suffered from infection by ticks. Mr. Verrill was told that it would be impossible to take pack-animals into the Sabanero-Guaymi region on account of its roughness,

INDIAN NOTES



FIG. 103.—Kukwa dance costume of painted bark cloth.
Coclé Indians, Province of Coclé, Panama



FIG. 104.—Kukwa dance costume of bark cloth. Coclé Indians, Province of Coclé, Panama

but with characteristic perseverance he took in a train of six horses and brought them through where none had been before. Most of the region is at an altitude of 3000 to 5000 feet, and the only means of travel is by Indian trails which lead over precipitous mountains regardless of grades or natural obstacles, and often through deep gullies or cañons in soft rock with perpendicular sides, too narrow to allow a laden horse to proceed, and necessitating the hewing of grooves in the rock to enable the packs to pass. In other places it became necessary to cut steps that the horses might gain hoof-hold, while

INDIAN NOTES

often the trails led along crumbling verges of precipices more than a thousand feet high. All this was accomplished with only insignificant breakage of specimens, although Mr. Verrill says, "The wonder is that, between horses tumbling down, packs knocking against rocks and trees, and other incidentals, anything breakable came through without being smashed to bits." Continuing, Mr. Verrill reports:

"I went straight through the heart of the Sabanero-Guaymi country, where the Indians are hostile and had never seen a white man, and many of whom had never seen a colored Panamanian. Fortunately I won the friendship of a sub-chief of the Guaymis living on the borders of the district, and he accompanied me, vouched for me, had me made an honorary member of the tribe, and forced the Indians to trade and to be photographed. He also sent runners to the most distant houses (there are no villages, the Indians living in houses often ten miles or more apart), had them gather at prearranged spots, held feasts, dances, and ceremonials for me to attend, and even had a stick dance performed by daylight so that I might obtain photographs.

"I found the Sabaneros more a name than an actuality. There are very few of them left—not over one hundred—and they have become so

INDIAN NOTES

mixed and intermarried with the Guaymis that they have lost practically all tribal identity so far as arts and customs are concerned, although retaining their own dialect, which is totally distinct from all others of Panama. In appearance



FIG. 105.—Boorabi drum from Bocas del Toro Panama

they are short, big-headed, brown-skinned, with oblique eyes, bridgeless noses, wide horizontally placed nostrils, and long thin chin beards and "Mandarin" mustaches. They are a far more primitive type than the Guaymis, and have been kept under subjection and almost absorbed

by the latter. They are not permitted to have their own chiefs, and are completely surrounded by the Guaymis, who number probably 10,000. Although these Guaymis are of the same stock as the Boorabis of the Bocas del Toro region, their dialects are slightly different, and their

INDIAN NOTES

habits, arts, etc., are quite distinct, though no more so than one would expect from the difference in environment. The Boorabis are seashore and river Indians, and depend mainly on fishing and some agriculture, while the Guaymis are mountain Indians, gaining their subsistence by hunting and agriculture.

"The pottery and terracotta work is particularly interesting, as also is the fine series of wooden stamps used in painting the face with black and red only, the designs often being very intricate and those of the women having definite significance. I do not know if I obtained every pattern, but I got all I saw in use. Neither tribe tattoos.

"During festivities the Guaymis decorate every wooden article with symbolic designs in soot mixed with grease. One sees them on gods, wooden pestle, spindles, etc. The odd mechanical device used by all the Guaymis for spinning twine, etc., is a clever combination of bow-drill and spindle.

"The terracotta figurines and the rough type of pottery are made only for ceremonial use and are afterward destroyed. It will be noticed that while these tribes are experts in weaving the *chakaras*, or bags, and in beadwork, yet their woodwork, pottery, and basketry are very crude.

"I was also greatly interested in the throwing

INDIAN NOTES

spears and throwing sticks, which I have not seen used hitherto. There are three types of the latter, two used by the Guaymis only, the other by the Sabaneros only. The throwing spears also are used by both tribes as arrows with bows; they are, however, more effectual with the throwing sticks.

"These Guaymis are reputed to be cannibals. I cannot vouch for this, but just before my arrival several were arrested, charged with cannibalism, but were released for want of evidence. Among these was the chief I became friendly with. I strongly suspect they do indulge in cannibalism at certain ceremonies, for when I showed them some photographs of Guiana Caribs and mentioned that they were cannibals, the Guaymis became greatly excited, crowding about the photographs, chattering and pointing, and insisted on my giving them the pictures.

"The feather headdresses are worn either with or without hats. The hat appears to be an interesting development from the woven basketry crowns—with top added—which I was told were in use ten or fifteen years ago, but were supplanted by the hats which the Guaymis copied from the Boorabis."

INDIAN NOTES

RECENT ACCESSIONS BY GIFT

From Mr. William C. Banks:

Fifty-eight worked stones. Pound Rocks, Stamford, Connecticut.

From Mr. Frank Wood:

Pottery figure. Mexico.

From Mr. Clarence B. Moore:

Plummet-shape stone. Mound Key, Lee county, Florida.

Oval clam-shell object notched on one side, possibly a hoe blade; white stone plummet; pointed cylindrical dark stone object. Marco, Key Marco, Collier county, Florida.

From Mrs. Thea Heye:

Paddle-shape rattle staff of wood. Ica, Peru.

Large wooden cup, incised decoration; wooden cup, incised and painted decoration. Cuzco, Peru.

Pair of shell and stone mosaic ear-ornaments (see page 145 and pl. 1); balance beam with nets attached; spindle with pottery whorl; hollow rectangular pottery object with human figure in relief on one side. Coast of Peru.

Globular stone bead; double whistle of pottery, black ware; one hundred thirty six rectangular shell beads with two perforations through edge and four on one side. Chimbote, Peru.

Bone handle for atlatl carved to represent animal; bone handle for atlatl carved to represent human face; manta, woven band. Nasca, Peru.

Adobe brick. Mound between Lima and Callao, Peru.

Tribute roll on amate paper, executed about 1530. Texcoco, Valley of Mexico, Mexico.

Pottery figure representing carapace of turtle. Valley of Mexico, near City of Mexico.

Cedar bark cape with painted decoration. Kwakiutl, Vancouver Island, British Columbia.

Slate flute carved to represent a raven; slate bird; slate bird with animal's head. Haida.

From Mrs. P. R. Alger:

Three photographs of Maine Indians.

From Mr. James N. B. Hill:

Forty colored portrait plates from McKenney and Hall's *Indian Tribes*.

INDIAN NOTES

From Mr. Howard P. Bullis:

Mortar; potsherd; two arrowpoints; fragment of stone pendant. Garretson creek, Jamaica bay, Kings county, Long Island, New York.

From Mrs. Walter M. James:

Four photographs. Rosebud reservation, South Dakota.

From Mr. W. G. Fowler:

Eleven photographs.

From Mrs. Hatfield:

Birch-bark case decorated with quillwork.

From Mrs. Hicks Arnold:

Two birch-bark cups; two birch-bark cases; seven birch-bark canoes; birch-bark box; two miniature birch-bark canoes with toboggans attached; three pairs of basketry earrings; three small wooden dishes; pair of miniature moccasins; skin bag. Huron.

Four birch-bark and sweetgrass trays. Ojibwa.

Silver belt; silver bridle. Navaho.

Catlinite pipe. Sioux.

From Mrs. Charles W. Hack:

Stone mask; two bone needles; spindle whorl; nose ring; stamp; jar with node decoration; pottery figure, broken. Locality unknown.

From Mr. Alfred M. Erskine:

Silver spatula. Arequipa, Peru.

From Mr. Peter Walters:

Four arrowpoints. Rosedale, Long Island, New York.

From Mr. Carl Schondorf:

Fragment of a double grooved axe. Fairfield, New Jersey.

From Prof. S. A. McCallie:

Rock crystal spear-point. Northern Georgia.

From Mr. Vitus Pitts:

Nine arrow- and spear-points. Great Pond, Montauk Point, Long Island, New York.

Five chipped points; four photographs. Montauk Point, Long Island, New York.

From Miss Edith Fellows:

Mortar and pestle. Mahican.

From Mr. P. F. Thompson:

Beaded baby-carrier; calf-skin bag. Sioux.

From The American Geographical Society:

Two maps of Alaska.

INDIAN NOTES

From Albert G. Heath:

Seven arrowpoints. Fayette, Alabama.
Old bone-handled knife. Neah Bay, Washington.
Spear-point. St. Croix county, Wisconsin.
Spear-point. Lee county, Virginia.

From Mr. F. S. Dellenbaugh:

Basket and cover. Tlingit, Alaska.

From Mr. Joseph Keppler:

Seneca manuscript (see page 242).

From Mr. E. Marsden Chapman:

Ten arrowpoints; two scrapers. Pamrapo village-site,
Bayonne-Greenville, New Jersey.

From Mr. Eugene M. Chapman:

Six arrowpoints; scraper. Putnam Valley, New York.

From Mr. G. H. Warner:

Fragment of pottery vessel. Pamrapo village-site,
Bayonne-Greenville, New Jersey.

From Mr. J. Vinton Stowell:

Curved chipped knife blade. Yonkers, New York.

From Mr. G. H. Warner:

Stone axe. Pamrapo village-site, Bayonne-Greenville,
New Jersey.

From Mr. Louis Shellbach, III:

Basketry hat; basket. Paiute, Moapa reservation, Nevada.

From Col. M. L. Crimmins, U. S. A.:

Forty-three photographs of petroglyphs from vicinity of
Three Rivers, New Mexico.

NOTES

COLLECTIONS FROM THE NORTHWEST.—The Museum has obtained a large collection from F. W. Skiff, of Portland, Oregon, who for many years has been gathering the material with exceptional discrimination. The archeology of the Columbia River region is especially well represented, the objects including many forms of sculp-

INDIAN NOTES

tured human and animal heads, monolithic axes, and plummet-shape stones, as well as examples of the more common stone artifacts of the region. In the collection there are thousands of beads, found in graves, among them many new varieties. The collection contains also a large body of ethnological material gathered among tribes from the Sioux westward to the mouth of the Columbia and northward into Alaska, included in which are a beautiful Chilkat blanket, one of the rare mountain-goat wool blankets from the Salish, many unique specimens from the Eskimo and the Tlingit, and a noteworthy series of woven bags from the Nez Percés, Wasco, and Umatilla. Specializing more or less in beads, the necklaces gathered by Mr. Skiff among the Nez Percés and the tribes westward are exceptionally representative. With these additions to its archeological and ethnological material, the Museum may now regard its collections from Oregon and Washington with great pride.

AN INTERESTING SENECA MANUSCRIPT.—Through the kindness of Mr. Joseph Keppler, of Woodland, New York, an old friend of the Museum, its collections have been enriched by the gift of a little leather-bound notebook containing the Seneca text of the *Ganoda* ceremony of the "Secret

INDIAN NOTES

Medicine'' Society, or *Niga Niga'a*. The text is probably in the handwriting of John Jacket, a descendant of the famous Red Jacket and chief singer of the "Pleasant Valley" lodge of this society at Cattaraugus, N. Y. It not only contains the Indian words of the songs, arranged in stanzas, but also an account of the money contributions of the members from 1849 to 1851. There are scattered monetary notations throughout the pages, the last date being September 14, 1870. The book was acquired in 1892 by Mrs. Harriet Maxwell Converse, the noted student of the Iroquois, and was kept by her until her death in 1903, when it came into the possession of Mr. Arthur C. Parker, now Director of the Rochester Municipal Museum, who in turn presented it to Mr. Keppler, who himself is a member of the Secret Medicine Society.

THE MUSEUM has been enriched by the purchase of the collection of Mr. Milford G. Chandler of Chicago, composed largely of specimens obtained in the field by Mr. Chandler in person, and comprising material from the Fox Indians of Tama, Iowa, the Winnebago of Wisconsin and Nebraska, the Forest Potawatomi of Wisconsin, the Prairie Potawatomi of Kansas, the allied tribes of Walpole island, Ontario, and the Iowa of Kansas. There are also some specimens from the Crows of Montana.

INDIAN NOTES

CHILEAN ARCHEOLOGY.—While in Chile last winter, Mr. A. Hyatt Verrill obtained for the Museum a collection of archeological material found in kitchenmiddens and burial sites in the vicinity of Taltal, classified in accordance with the four cultures represented therein, the earliest of which is regarded as paleolithic in type. The stone objects include some that are eccentrically chipped to represent birds, human beings, etc., also arrow and spear points, knife blades, pendants, and tobacco pipes. Bone artifacts, also well represented, include many ornate so-called spatulas or mixing spoons. The collection, which numbers about two thousand specimens, was gathered by and obtained from Mr. N. Cassanova.

RECENTLY acquired by the Museum is a collection of sixty earthenware vessels from the State of Granada, Nicaragua, which include not only the usual jars and bowls ornamented with painting, but effigy jars as well. Among the latter, some of which are as high as seventeen inches, are examples with the human face represented in relief, while others depict the heads of animals, all finely modeled. The collection is of special value to the Museum, as it had possessed few archeological specimens from the district named.

INDIAN NOTES

THERE has been received by the Museum a collection of specimens from the Caingang Indians in the western part of the State of Santa Catarina, Brazil, whose culture is quite different from that of the neighboring tribes. The collection was made in 1914 by Dr. Miguel Hoerhann, and, strange to say, many of the objects show a distinct African influence. The warclubs are provided with large iron blades, and the bows are unusually massive; indeed they are the largest ones in the Museum.

MR. CADZOW proceeded to Frontenac island in Cayuga lake, New York, early in May, for the purpose of finishing his excavation of the pre-historic Algonkian burial site commenced last summer, an account of which appears in the January issue of *Indian Notes*. Early in July Mr. Cadzow will collect ethnological material among the Bungi Ojibwa of Manitoba and the Plains Cree of Saskatchewan and Alberta.

THE MOST recent publications of the Museum, either issued or in press, are:

The Penn Wampum Belts. By Frank G. Speck and William C. Orchard. (*Leaflets*, no. 4.)

The Rappahannock Indians of Virginia. By Frank G. Speck. (*Indian Notes and Monographs*, vol. v, no. 3.)

Skeletal Remains from Santa Barbara, California. I. Craniology. By Bruno Oettking. (*Indian Notes and Monographs*, Misc. no. 39.)

INDIAN NOTES

The Cayapa Indians of Ecuador. By S. A. Barrett. (*Indian Notes and Monographs*, Misc. no. 40.)

The Wood-carver's Art in Ancient Mexico. By Marshall H. Saville. (*Contributions from the Museum*, vol. ix.)

BY REASON of the excessive heat of the desert, Mr. M. R. Harrington suspended his excavations at Pueblo Grande de Nevada and in the adjacent caves in Clark county, Nevada, on June 1st, but will resume the research at the beginning of October with an increased force and continue it through next winter.

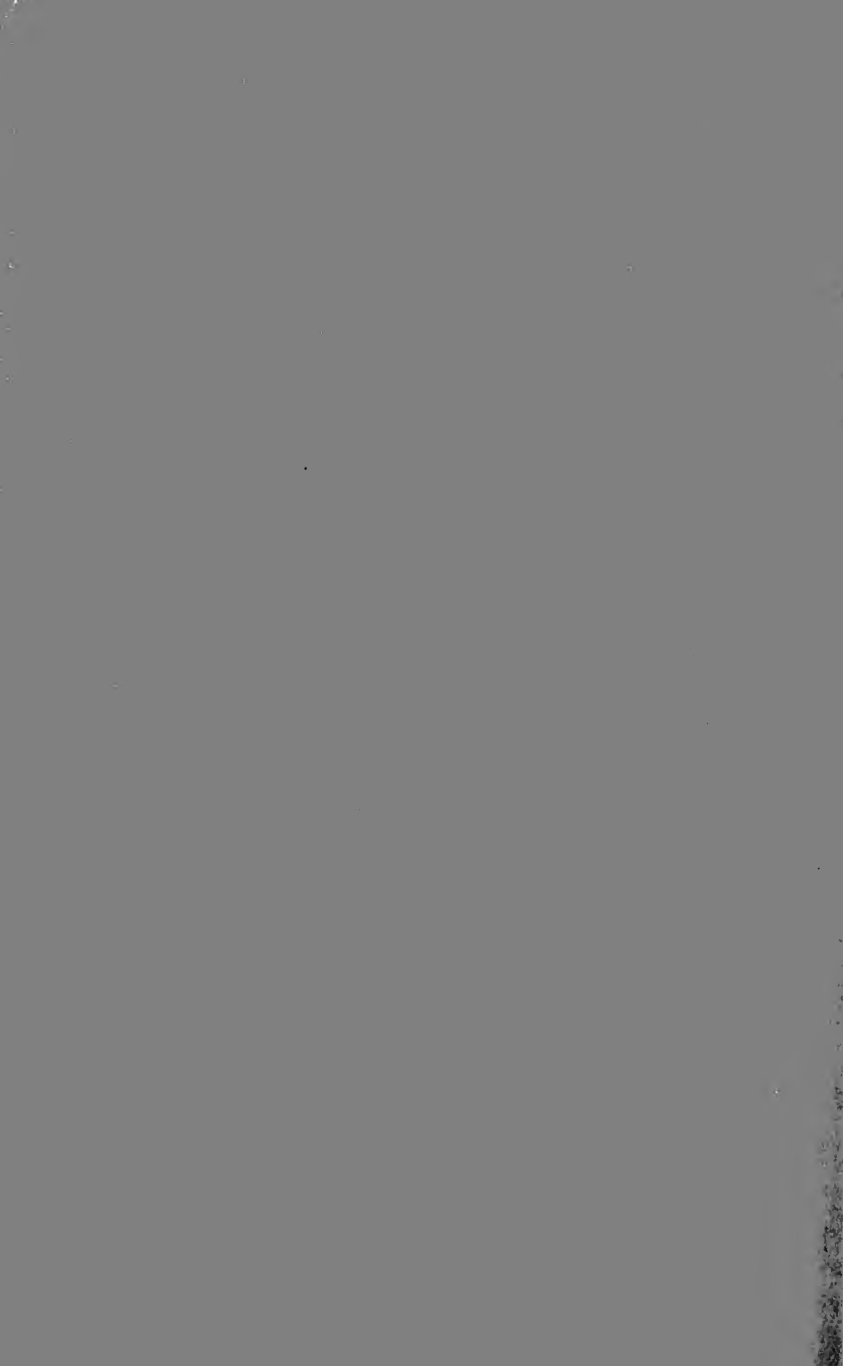
MR. G. W. AVERY, in behalf of the Museum, has visited an interesting ruin of which he has recently learned in southern Sonora, Mexico, and at last report was gathering ethnological objects among the Yaqui and Mayo Indians.

FOR THE purpose of collecting ethnological material among the Eastern Sioux, Mr. Skinner will depart for North Dakota and Manitoba about the close of July.

MR. D. A. CADZOW lectured before the American Scandinavian Society, on March 24, on "The Indians and Eskimo of Northwestern Canada and Alaska."

MR. WILDSCHUT is continuing the gathering of objects among the Blackfeet, Crow, and Assiniboin Indians, and making field studies regarding them.

The MUSEUM OF THE AMERICAN
INDIAN, HEYE FOUNDATION, has
issued several series of publica-
tions, a price-list of which will
be sent on application.



INDIAN NOTES

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CONTENTS

	<i>Page</i>
Obituary and Bibliography of Alanson Skinner. M. R. Harrington	247
The Thea Heye La Plata Expedition. S. K. Lothrop	257
Balance-beam Scales in Ancient Peru. Marshall H. Saville	266
Arikara Uses of Clay and of Other Earth Products. Melvin R. Gilmore	283
An Early Long Island Tragedy. Alanson Skinner	290
Old Loucheux Clothing. Donald A. Cadzow	292
Another Indian Village-site on Staten Island. Alanson Skinner	296
Pottery Repairing and Restoring. William C. Orchard	297
Indians of Surinam. A Hyatt Verrill . .	309
A Staten Island Petroglyph. Alanson Skinner	313
A Crow Shield. William Wildschut . .	315
Iroquois Falseface Pipe. Alanson Skinner .	321
Museum Expedition to Tierra del Fuego. S. K. Lothrop	322
Recent Accessions by Gift	335
Notes	289, 339
Index to Volume II	343

INDIAN NOTES

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VOLUME II

NEW YORK

1925



ALANSON BUCK SKINNER
1886-1925

INDIAN NOTES

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Alanson Skinner

ON MONDAY, the seventeenth of August, 1925, an automobile happened to skid on a slippery country road near Tokio, North Dakota. Such things can and do happen everywhere, every day, without anyone being the worse, but this time the car slipped over the edge of the grade and toppling over, crashed down the embankment.

A moment later, Rev. Amos Oneroad, a Sioux Indian, dazed and bruised, crawled from the wreck, calling a name—listening vainly for an answer. Then it dawned upon him what had happened, and he struggled manfully, but to no avail, to lift the mass of steel and release his dearest friend, who, as he now saw, lay pinioned and silent beneath it. At length help was found, the car was raised, but it was too late. Alanson Skinner was

INDIAN NOTES

dead. Alanson Skinner, sympathetic and appreciative friend of the Indian race, learned student of Ancient America, prolific author of scientific works on Indian subjects, lecturer, fiction writer, poet—there he lay. Gone forever was that wonderful memory, that bubbling humor, that active mind, that radiant, cheerful personality. He was only thirty-nine years of age, just getting into his full stride, at the very threshold of what promised to be the most brilliant and valuable part of his career.

Alanson Buck Skinner was born in Buffalo, New York, September 7, 1886, the son of Rachel Amelia Sumner and Frank Woodward Skinner, C.E. At an early age his parents brought him to Staten Island, New York, to live, a move that proved to be of prime importance in shaping the course of his life, for on Staten Island Alanson met that lovable gentleman and scholar W. T. Davis, who became his lifelong friend and who turned his boyish enthusiasm toward the study of natural science. And it was Mr. Davis who first taught him to find arrowheads and other traces of ancient Indian life.

Becoming more interested along these lines, Alanson sought counsel at the American Museum of Natural History, where he consulted Professor F. W. Putnam and became a friend of Harlan I. Smith

INDIAN NOTES

and George H. Pepper. It was at this Museum that the writer first met him, about the year 1900, and here began an intimate friendship between them which grew with the years and which continued uninterrupted until the day of his death.

In 1902, during his school vacation, Skinner had his first taste of expedition life, working for the American Museum of Natural History with Arthur C. Parker and the writer in the excavation of an ancient shellheap near Shinnecock hills, Long Island. The boy learned much on this trip regarding the methods of archeological field-work; but the chief benefit he derived from it was the formation of his great friendship with Parker, himself destined to become an anthropologist of note.

Two years later Skinner accompanied the writer on another archeological excursion, this time to western New York state in the interest of the Peabody Museum of Harvard. This expedition proved to be his introduction to ethnology, for at Cattaraugus he visited his first Indian reservation and attended his first native ceremony.

Leaving high school he tried a commercial position for a while; but his heart was not in it, and he soon returned to the work he loved, ultimately joining the staff of the American Museum of Natural History as assistant in anthropology. In

INDIAN NOTES

this capacity he led an expedition in 1908 to Hudson bay for the purpose of studying the Cree Indians. This was his first command. The following year came a second northern trip, terminating at Hudson bay; and on his return he made his first visit to Wisconsin, which was destined to become the scene of many of his future labors.

In 1910 Skinner returned to Wisconsin, where he met the Menomini half-blood, John V. Satterlee, who informally adopted the young ethnologist as his nephew. It was, however, Judge Sabatis Perrote, a noted full-blood, who formally adopted Skinner into the Menomini tribe, under the Thunder-clan name of *Sekosa*, or "Little Weasel," a name which clung to him until the end, although the Wyandot Deer-clan name of *Tronyetase*, "Round the Sky," was later conferred on him. Satterlee loved Alanson, and Uncle John's advice and teachings along Indian lines had much to do with his adopted nephew's later success, not alone among the Menomini, but among other tribes as well. Then came an expedition to collect from the Seminole in the wilds of the Florida everglades, and later others to the tribes of Wisconsin, Oklahoma, and other states.

Somehow during these busy years Skinner found time for a college education, studying at Columbia

INDIAN NOTES

under Boas, Farrand, Saville, and Bandelier, and at Harvard under Dixon, Tozzer, and Farabee, where during 1911-12 he held a fellowship in anthropology.

He continued his researches with the American Museum of Natural History until 1916, except for a few months in 1912 when he was lent to the State of New Jersey to take charge of an archeological survey to be made of the state. In 1914 began the valued friendship with Amos Oneroad the Sioux, who was his companion that fatal day eleven years later.

In 1916 Skinner identified himself with the Museum of the American Indian, Heye Foundation, taking charge of an archeological expedition to Costa Rica in the autumn of that year, and remaining with it until the fall of 1920, when he accepted the position of Curator of Anthropology in the Public Museum of Milwaukee; but in June, 1924, he returned to the Museum of the American Indian and remained a member of its staff until the end.

Although Skinner devoted considerable attention to archeology, particularly the archeology of New York state, and wrote various papers on the subject, he will be remembered chiefly as an ethnologist, for most of his published work is the result of ethnographic research. His special

INDIAN NOTES

study was the Menomini Indians, his adopted kinsmen; but he also published valuable papers on other tribes, such as the Potawatomi, the Sauk, the Ioway, the Mahican, the Cree, the Saulteaux, the Bribri of Costa Rica, and the Eastern Dakota. And it was among the Eastern Dakota that the accident occurred which terminated his life.

Within the last year or two he had also blossomed as a writer of fiction, his vivid Indian stories appearing in various magazines, especially in *Adventure* and in *Frontier*. He had moreover written a number of poems, one of which, "Slaves of the Lamp Called Science," published in *Adventure*, attracted considerable attention.

During the World War Skinner made a number of attempts to enlist in the service, but each time was rejected on account of physical defects. Finally he was accepted by the New York Guard and served a term of enlistment with the Ninth Coast Artillery. He was a valued member of a number of organizations, including the American Anthropological Association, the Wisconsin Archeological Society, and the Explorers Club, besides which he was a life member of the American Museum of Natural History, a York Rite Mason and a Shriner.

For all his successful career, Skinner's private life during childhood and youth was marked by

INDIAN NOTES

an almost continual struggle against ill health and, in later days, was darkened by a succession of appalling catastrophes, any one of which would have crushed forever a spirit less brave and buoyant, tragedies with which his sad end is thoroughly in keeping. Twice he built up his fortunes, only to see everything he had worked for swept away, and those he loved stricken by death. And the third time he himself was taken.

He is survived by his parents, by his wife, Dorothy Preston Skinner, who is part Wyandot by blood, and by a little daughter, Esther Mary, four years of age. And a host of sorrowing friends, red and white, are left to mourn his loss.

Doubtless his courageous spirit faced Death bravely, as it had faced Life. His old comrades wish him Godspeed and good fortune in this his greatest adventure into the Unknown.

M. R. HARRINGTON

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1925

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THE THEA HEYE LA PLATA EXPEDITION

OWING to the generosity of Mrs. Thea Heye the Museum has been enabled to complete excavations at three sites in the delta of the Rio Paraná in northeastern Argentina in coöperation with the Museo de La Plata. This undertaking resulted from the visit of the Director and Mrs. Heye

INDIAN NOTES

to the Argentine in 1924, when conferences were held with Dr. Luis María Torres, Director of the Museo de La Plata. The work was conducted under the supervision of the writer, assisted by his wife and by Señor Antonio Castro of La Plata.

The Paraná delta consists of rich alluvial soil, often scarcely above water and subject to severe floods. It is cut by the numerous branches of the Rio Paraná itself and by the Rio Luján. Many small streams also exist, and numerous small canals have been dug by private land-owners both to serve the rapidly increasing needs of transportation and as drainage ditches. The climate is disagreeable: damp all the year round, hot in summer, breeding hordes of insects, and cold in winter.¹

ARROYO MALO

The first spot selected for excavation lies on the south bank of Arroyo Malo, a weed-choked stream between the Luján and Paraná de las Palmas rivers, which is cut at right angles by the large Canal Arias. Here there had evidently existed a village, or at least a regularly used camp-site, and previous

¹ A full description of this region, together with an account of previous excavation and skeletal remains, has been published by L. M. Torres, *Los Primitivos Habitantes del Delta del Paraná*, Buenos Aires, 1911.

INDIAN NOTES



FIG. 107.—Arroyo Malo: General view

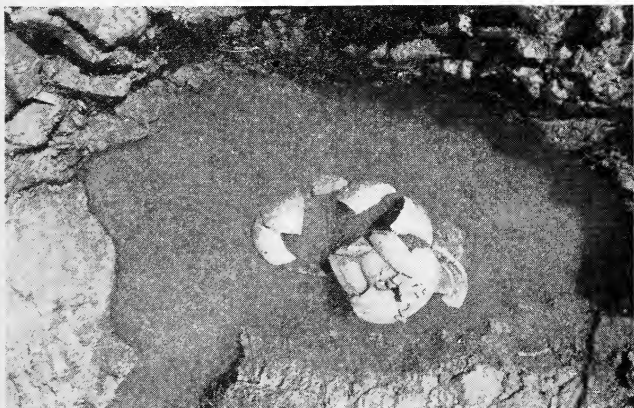


FIG. 108.—Arroyo Malo: Urn-burial below water-table

INDIAN NOTES

excavation by Señor Pablo Gaggero, of the Museo de La Plata, had demonstrated the presence of large burial-urns of Guaraní type such as have been encountered hundreds of miles away in the upper Paraná. The land, the property of Señor Domingo



FIG. 109.—Arroyo Malo: Burial-urn showing bones

Novelino, who generously permitted us to excavate, had recently been planted in poplar trees, between the rows of which narrow trenches were dug, except where burials necessitated the removal of individual trees. The soil was extremely soft, in consistency like soft cheese, so that it was

INDIAN NOTES

easily pared with a flat-bladed shovel. Human remains were encountered in a stratum an inch or two thick which lay not quite the depth of a shovel-blade below the surface. A second shovel stroke reached the water-table at all times (fig. 108), while on some days the whole district was submerged.



FIG. 110.—Arroyo Malo: Urn burial

The chief interest centered in the burials. In most cases these consisted of bones placed within a large urn with several similar jars nearby, all of which had been sunk scarcely below the original ground level. In most instances these vessels had been badly broken by cattle whose hoofs had

INDIAN NOTES

penetrated during periods of high water, but nevertheless it was possible to recover a large series of the urns for the Museum. Stone scrapers were also found, one polished ax, a series of solid clay cylinders about six inches high with a hole in one end, and several bits of European pottery. (See figs. 109, 110).

The aboriginal pottery is often corrugated. The smooth vessels seem to have been painted red, sometimes with broad white lines on which are thin diagonal patterns in red, recalling the modern Conibo pottery. No incised vessels were found.

EL CERRILLO

This site lay a few hundred feet from the south bank of the Paraná Guazú river between the Paraná Miní river and the Campana canal. It had been previously excavated in part by Dr. L. M. Torres (op. cit., tumulo no. 1), who had taken out skeletons, pottery, and bone objects. The ground was somewhat higher than at the previous site, and was never under water during our stay, although the bottom of the trench was sometimes flooded. The archeological remains lay in the raised bank of a small stream. Dr. Torres had excavated the northern half, and we commenced digging at the southern side, continuing until the two trenches practically met.

INDIAN NOTES

The excavation disclosed a rich black soil, seemingly human detritus, interlaced with roots and striated with ash pockets. In this were encountered numerous burials, evidently of a secondary character, for in some instances the limbs and head had been placed separately in the grave in positions only possible had they been disarticulate, while in other cases the bones of several individuals had been cast into a single grave-pit and were hopelessly mixed. Beneath the bones was a layer of food—fish, otter, and deer for the greater part. This in turn rested on an ash layer which indicated that a large fire had been made in the grave on which a food offering had been placed, while the partly disarticulated body had been cast on top and covered with a thin layer of earth. The bodies had been placed in the ground in a variety of positions, face up and face down, and were not oriented. (Fig. 111).

The pottery at this site was totally different from that of the Arroyo Malo type, for on the Paraná Guazú no large urns were found, nor were vessels deposited with the dead; but there were found great numbers of fragments of small bowls decorated with incised bands on the outer rim. The ware was better fired than the Arroyo Malo pottery.

Other objects encountered include a variety of

INDIAN NOTES



FIG. 111.—El Cerrillo: Secondary burials

bone harpoon- and spear-points, bone scrapers and awls; antler arrow-shaft straighteners of the type recovered from European paleolithic stations; stone scrapers, drill tops and hammers.

No objects of European manufacture were discovered.

ARROYO SARANDÍ

The Arroyo Sarandí site is located on the bank of a small stream which flows northward into the Rio Luján through the Isla Pacheco. Two mounds, one large and one small, indicated the presence of former inhabitants. The ground here

INDIAN NOTES

was much higher than at the previous sites, and we were never bothered by high water, though hard frosts made digging difficult. The land had been plowed at times and considerable "pot-hunting" had been carried on over a period of years.

The small mound was first excavated by means of a broad trench, disclosing burials not clearly of a secondary character like those on the Paraná Guazú. In many cases these had been disturbed by plowing, but enough were encountered intact to show that the normal position was lying on the back, often, though not always, with the head to the east.

A trench was run also through part of the larger



FIG. 112.—Arroyo Sarandí: Secondary burial

INDIAN NOTES

mound before the increasing severity of the frosts forced the conclusion of the work.

The objects encountered in general resembled those found on the Paraná Guazú. The pottery was much the same, though fewer incised fragments were found and a series of bottle-necks not seen elsewhere were unearthed. Bone and horn implements also turned up plentifully. Stone objects included well-made *boleadoras* encircled by broad grooves.

A third type of pottery from the Paraná delta—marked by the presence of animal figures recalling Arawak workmanship²—was unfortunately not encountered by the expedition.

S. K. LOTHROP.

BALANCE-BEAM SCALES IN ANCIENT PERU

AFTER primitive man had reached a stage of culture induced by a sedentary life which led to an exchange of commodities, the beginnings of commerce, one of his first necessities was a device for weighing. Two forms of such apparatus, the balance-beam scale and the steelyard or Roman

² See L. M. Torres, op. cit.

INDIAN NOTES

balance scale, closely related in their mechanism, may have been invented by different peoples at different times. The true balance-beam is traceable to remote antiquity, being represented by carving and painting on early Egyptian monuments and by painting on pottery of ancient Greece. It was early known in China, and still survives in various other parts of the world. The balance scale, or steelyard, also widespread in its distribution in ancient times, was highly developed and extensively used by the Romans, whose name it still bears. This form of balance also survives, but in recent times both types have been largely displaced, except in more primitive or unprogressive regions, by spring balances, torsion balances, etc. This subject has been lately discussed by Sökeland, to whose important paper the reader is referred for more detailed information on the subject.¹

The two types have been defined by Sökeland as follows:

1. The desemer balance-beam scale with fixed weight and shifting fulcrum, not necessarily having more than two separate pieces.

¹ Hermann Sökeland, On Ancient Desemers or Steelyards, *Annual Report of the Smithsonian Institution for 1900*, pp. 551-564, Washington, 1901; translated from *Verhandlungen der Berliner Gesellschaft für Ethnologie*, Berlin, 1900; illustrated with 22 figures.

INDIAN NOTES

2. The Roman balance, or common steelyard, with shifting weight and fixed fulcrum, necessarily having three pieces at least.

So far as we now know, balance-beams or scales were not in use among the civilized peoples of Mexico and Central American before their introduction by the Spaniards.

Cortés, in his Second Letter of Relation, dated October 30, 1520, in describing the great market in Tenochtitlan, the capital of Montezuma, states that "everything is sold by a kind of measure, and until now we have not seen anything sold by weight." Peter Martyr, in his Fifth Decade, writes concerning the Mexicans, from information received from Juan Ribera, a messenger of Cortés, sent with gifts to Spain in 1522, that "the natives are acquainted with figures and measures, but not with weights." In the division of the loot obtained by Cortés in the sacking of Tenochtitlan, the Spaniards found some difficulty in allotting the royal fifth of the treasure to the King of Spain, owing to the lack of weighing scales of precision among the Aztecs. They had to manufacture makeshift scales and weights in order to accomplish this task.

Concerning this point Bancroft writes: "The Nahuas bought and sold their merchandise by count and measure both of length and capacity,

INDIAN NOTES

but not by weight; at least, such is the general opinion of the authorities. Sahagun, however, says of the skilful merchant that 'he knows the value of gold and silver, according to the weight and fineness, is diligent and solicitous in his duty, and defrauds not in weighing, but rather gives overweight.' Terms for weights and scales appear in several native vocabularies, a fact which Brasseur de Bourbourg regards as ample proof that scales were used. Clavigero thought that weights may have been employed, but mention of the fact was omitted from the narratives.''² In the absence of statements by early chroniclers concerning them, and in view of several notices to the effect that the Mexicans traded merchandise by counts and measures without reference to balance-beam scales, we are justified in assuming that this primitive method of weighing had not been invented in North America in prehistoric times.

That the subject under consideration has been overlooked by the general student is evident from the lack of references to balance-beam scales in general works treating of the antiquities of America. Under the subject of Anthropology and Ethnology, treated at length by Dr. Brinton in the *Iconographic Encyclopedia* published in

² H. H. Bancroft, *Native Races of the Pacific States*, vol. II, pp. 382-383, San Francisco, 1882.

INDIAN NOTES

1886, in the subsection on weights and measures (p. 14), he writes: "To 'heft' an object is so natural a way to test and compare its quantity that one is surprised to find that even the most cultivated nations of the New World do not appear ever to have had a recognized unit of weight. . . . The balance and the scales were totally unknown. Yet on very ancient paintings of the Egyptians the merchant is seen with his scales carefully weighing his wares, and in China they have been in use from the dawn of history."

Nevertheless, in one portion of ancient America balance-beam scales have been found by the archeologist, respecting the pre-Spanish origin of which there can be no controversy. The pre-Inca and Inca people of the coast of Peru made use of this device in conducting their trade, and a few complete examples are preserved in private collections and museums. Numerous balance-beams of wood or bone have been found in ancient Peruvian graves, sometimes with cords attached as a means of suspension, in addition to the two hanging cords for the support of nets or of metal pans. We have seen only a few complete specimens, but probably others exist which have not come to our notice.

Let us consider the references to the use of balance-beam scales in South America in pre-

INDIAN NOTES

Spanish times. Their northernmost occurrence is in northwestern Venezuela. In speaking of the earliest explorations in this region, Oviedo y Valdés writes:

“The inhabitants of this village for the greater part work gold, and have their forges and anvils and little hammers made of hard stone. Some say they are of a black metal like emery. The little hammers are of the size of eggs or smaller, and the anvils are as big as a cheese of Majorcas, made of other stones of the hardest nature. The bellows are a reed about as big as three fingers or more, and as long as two hand-breadths. They have some cunning balance-beam scales like those of the Romans (*romanas sotiles*) with which they weigh, and these are of a white bone which looks like ivory, and they have them also of black wood, like ebony. They have grooved rods and points for increasing and diminishing the weight like our Roman scales of weighing. They can weigh with their method from half a *castellano*, which would be forty-eight grains, up to a mark of fifty *castellanos* or eight ounces, and no more, because they are small scales.”³

This refers to the Pacabuyes Indians of the town of Thamara, eight leagues from Pauxoto and not

³ Oviedo y Valdés, *Historia General y Natural de las Indias*, tomo II, lib. xxv, cap. II, p. 274, Madrid, 1852.

INDIAN NOTES

far from Coro and Maracaibo, which town of the Pacabuyes is southwest of Lake Maracaibo, according to the map published in Oviedo. The coast of Coriana, just east of Lake Maracaibo, was the first part of Venezuela to be explored. Juan de Ampres made this voyage in 1525. The city of Coro was founded in 1527. Alfinger, called also Ambrosio, made his voyage among the Pacabuyes Indians probably in 1530 or 1531, for he arrived in Coro in 1529.⁴

Southwest of the Venezuelan region, in northwestern Colombia, Cieza de León, who traversed the country before 1540, wrote that "Antioquia is surrounded by extensive provinces, inhabited by Indians, very rich in gold, who use small scales (*romanas pequeñas*) to weigh the gold."⁵

A still more important statement concerning this apparatus comes from two sources. In 1525 Francisco Pizarro sent his captain, Bartolomé Ruíz, southward from Panama to explore the coast in order to discover the kingdom of Peru. The

⁴ Pedro de Aguado, *Historia de Venezuela*, *Publicaciones de la Real Academia de la Historia*, 2 vols., Madrid, 1918-19. In the *relación* of Perez de Tolosa, quoted by the editor, it is stated that Alfinger left the town of Maracaibo to discover the Pacabuyes and the Rio Grande of Santa Marta, where the best lands (in northern South America) was found.

⁵ *Travels of Pedro de Cieza de León, A.D. 1532-1550*, translated by Clements R. Markham, Hakluyt Society, London, 1854, p. 52.

INDIAN NOTES

report of this voyage was made to the King of Spain in 1526 by Juan de Sámanos, secretary to the King, but it remained unpublished until 1844.⁶

In this first voyage Ruíz sailed beyond the present Colombian coast to Ecuador, crossing the equator and probably returning northward from the vicinity of the Bay of Caraqués. While in this neighborhood the Spaniards captured a large sea-going balsa which had cruised north from a region probably near the Gulf of Guayaquil, or even Tumbez in northern Peru. In this vessel, the report states, the Indians brought many products for trade, among which were objects of gold, and mention is made of "some little scales for weighing gold like those of Roman fashion (*hechura de romana*) which they carried with them."

The other statement, relating to the same voyage, is found in the account of the discovery of the coast of Ecuador and Peru by Miguel de Estete, which remained unpublished until 1918.⁷ In describing the province of Pasao and the town of Coaque, Estete writes: "And these people and

⁶ Relación de los Primeros Descubrimientos de Francisco Pizarro y Diego de Almagro, sacada del código número CXX de la Biblioteca Imperial de Viena, 1526; *Col. de Doc. Inéd. para la Hist. de España*, tomo v, Madrid, 1844.

⁷ The work of Estete, transcribed and edited by Carlos M. Larrea, was first published in the *Boletín de la Sociedad Ecuatoriana de Estudios Históricos Americanos*, tomo 1, núm. 3, Quito, 1918. The quotation is from page 317.

INDIAN NOTES

those of Coaque use weights and measures, and these are some Roman scales (*unas romanas*), about half a yard long, with their calculation and number on them and having their *pilon* (drop or ball of a steelyard). We did not see them used for weighing except for gold and silver, and so it is believed that they were used only for this purpose, because they were so small, and in order to weight other things they must have had other kinds of weights."

No specific reference to the use of scales along the actual Peruvian coast is to be found in the early chronicles, but Ulloa, writing in the eighteenth century, refers to their use by the ancient Peruvians, and we have also the archeological evidence which has suggested the preparation of this paper. Ulloa writes: "The modern Indians preserve without doubt the use of balances from ancient times; these they manage without a *fiel* (fixed handle at the center of the beam). The apparatus consists of two shallow pans of calabash suspended from a stick by some cords, with another cord in the middle to lift it. The weights are some stones of the desired proportions, and do not follow the size of the *marco* of Spain. These scales are used in selling coca, cotton, and wool, which are among them, the goods which they need to sell by weight, dealing with other things

INDIAN NOTES

by the eye. In the ancient examples of scales, small scales are found, whose pans are made of silver, and the beam of the same material. The beams are not plain, but end in a point. Judging by their size these scales were used only in weighing gold and silver, because for larger things they are inadequate."⁸

From this statement it is apparent that Ulloa had seen scales found in ancient graves. His notice was not overlooked by Prescott in his account of the civilization of the Peruvians.⁹

An excellent example of balance-beam scale, found in an ancient grave on the coast of Peru, has been recently added to the Peruvian collection of the Museum through the interest of Mrs. Thea Heye. It is shown in fig. 113. The beam is of a hard, dark wood, 7 inches long, 1 9-16 inches high,

⁸ Antonio de Ulloa, *Noticias Americanas: Entretenimientos Físico-Históricos sobre la America Meridional, y la Septentrional Oriental, etc.*, Madrid, 1772. I quote from the edition of 1792, p. 320.

⁹ W. H. Prescott, *History of the Conquest of Peru*, vol. 1, book 1, chap. v, footnote 24. He writes of the Peruvians (p. 157): "They were not a commercial people, and had no knowledge of money. In this respect they differed from the ancient Mexicans, who had an established currency of a determinative value. In one respect, however, they were superior to their rivals, since they made use of weights to determine the quantity of their commodities, a thing wholly unknown to the Aztecs. This fact is ascertained by the discovery of silver balances, adjusted with perfect accuracy, in some of the tombs of the Incas."

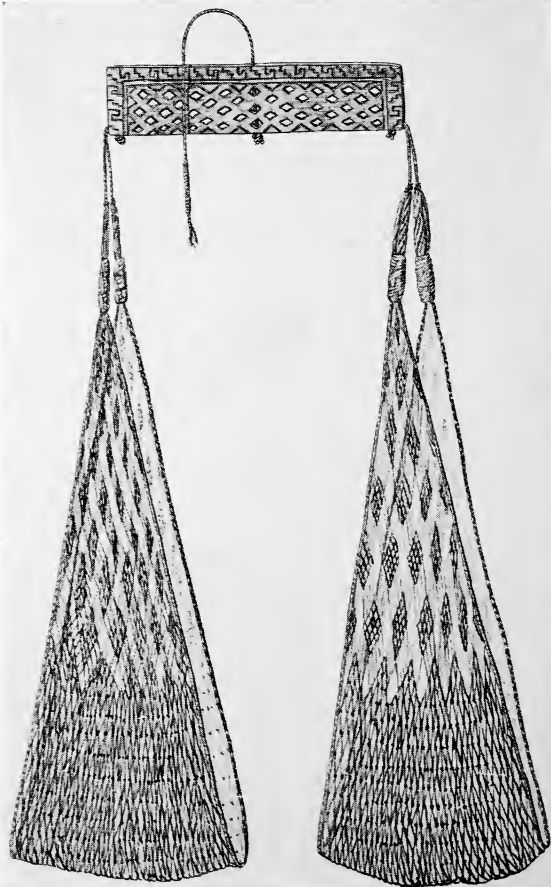


FIG. 113.—Balance-beam scale from the coast of Peru in the Museum of the American Indian, Heye Foundation

INDIAN NOTES

and a quarter of an inch in thickness, and has a decorated band around the upper and side margins. The rest of the surface is ornamented with lozenge-shape perforations extending through the beam.

In the center is a small perforation from top to bottom to receive a cord, knotted at the lower part, which serves as a handle. From each lower corner hangs a long, netted, hammock-like bag secured to the beam by a cord that passes through a perforation extending diagonally in the beam, the cord being knotted at the base and coming out at the

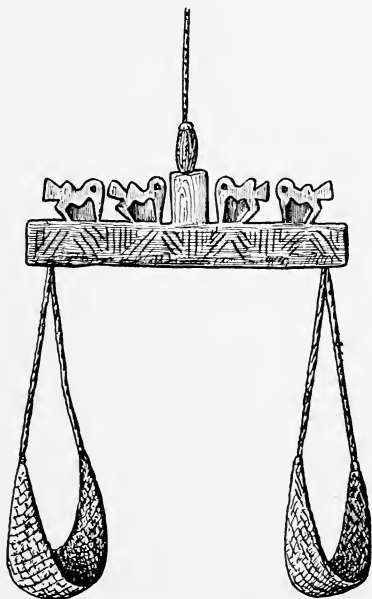


FIG. 114.—Balance-beam scale from Ancon, Peru. (After Wiener)

side. This is the best-preserved example of its type which we have examined. For the sake of comparison we illustrate two other scales of slightly different character (figs. 114, 115).

INDIAN NOTES

Wiener illustrates, but does not describe, a balance-beam found in a tomb with other objects in the necropolis of Ancon.¹⁰ The beam, apparently of wood, has a unique stub-like projection on the upper side where the holding cord passes through the beam. On each side is a pair of

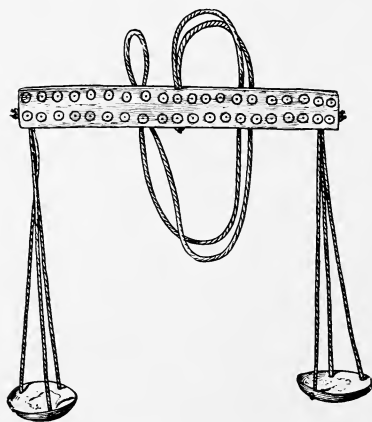


FIG. 115.—Balance-beam scale from Marquéz, Peru. (After Baessler)

aquatic birds with their beaks to the ground. Birds of this kind are often represented in beams of wood or of bone which have been found in considerable numbers without their weighing nets or pans. The specimen illustrated by Wiener (fig. 114) has short hanging

nets to contain the material to be weighed.

Hamy illustrates a complete balance-beam with fragments of metal pans, and the beams of seven others, two of which still have the hanging strings, and one of them the single cord for a handle. In addition he figures two very short speci-

¹⁰ Ch. Wiener, *Perou et Bolivie*, p. 656, Paris, 1880.

INDIAN NOTES

mens which he believed to have been beams.¹¹ Hamy writes that Joseph Dombey was the first to discover the existence of balance-beams in Peru, not knowing of the account of Ulloa or of the earlier references to the apparatus.

A balance-beam with pans is shown in fig. 115, after Baessler,¹² who gives the following description: "A balance with two small silver scales about $1\frac{5}{8}$ inches in diameter, attached, each by three cords, to a narrow beam suspended by a long string. On their inner and outer surfaces adheres a thick crust of a dry red pigment. The beam, carved from a piece of bone, is garnished with small incised circles." It was found at Marquéz, not far north from Callao, at which site the present writer made some excavations in January, 1925.

Baessler figures also a balance from Baranca (Barranco), which he describes as "a smooth, flat piece of bone, $5\frac{1}{4}$ inches long, a little less than one inch broad, a scant one-eighth of an inch thick, provided with three holes. One runs through the whole breadth from above downwards, exactly in the center of the bone; two

¹¹ E. T. Hamy, *Galerie Américaine du Trocadero*, Paris, 1897. These balances are illustrated in pl. LV and described on page 110 of the explanatory text.

¹² Arthur Baessler, *Ancient Peruvian Art*, Leipzig, 1902-03. The balance-beam scales are illustrated in pl. 161; the one we copy is fig. 434.

INDIAN NOTES

beginning at the sides are drilled so slantwise that they too end at the lower edge. Through the first runs a string to which is suspended the beam thus adjusted; in the two others the strings are fastened with two nets which serve as scales. The nets are knitted with extremely fine, twisted, brown cotton threads, and hemmed with a red plaited edging of the same material. Above they run together, ending in two strings with which they are fastened to the beam. With this balance the strings are passed from the outside through the beam, a method of fastening which is likewise met with in another balance in our collection. But more common are those balances with which the strings hang at the lower edge." Baessler also figures beams from Chuquitanta and Pachacamac.¹³

¹³ Baessler, *ibid.* This is a description of specimen number 433. The nets are the same size as those of the specimen in the Museum.

In this connection we might quote two other writers who have described balance-beam scales, namely, T. A. Joyce, in his *South American Archæology* (London, 1912), writes: "The presence of balances with finely carved beams of bone and pans of wood or net proves that some system of weights must have existed." Joyce illustrates (p. 130) a specimen in the British Museum.

Paul Berthon, in his *Étude sur le précolombien du Bas-Pérou*, Paris, 1911, illustrates (pl. xi) seven balance-beams without the nets or pans. One from Pachacamac is of wood sculptured in the style of Tiahuanaco; the other six, made of bone and wood, are from the neighborhood of Lima.

INDIAN NOTES

Nordenskiöld illustrates an example in the Berlin Museum which has a hollow rod or cane for the beam. A single long cord runs through it, from which hangs at one end a grooved stone weight. The cord at the other end to hold the material to be weighed is longer and consists of four cords knotted at the base.¹⁴

All of the ancient scales mentioned or illustrated belong to the first type, the desemer or balance-beam scale. We have never seen the Roman balance or steelyard type among Peruvian antiquities, hence we may interpret the early accounts of scales like "those of the Romans" to refer to the class which we have illustrated.

In a recent monograph on the archeological region of Casta, in the province of Huarochirí of the Andean region, Tello describes the present-day use of scales which belong to the second group, or the steelyard type. Whether this style is a survival of a pre-Spanish apparatus or a variant of

Erland Nordenskiöld, in his *Emploi de la balance romaine en Amérique du Sud avant la conquête* (*Journal de la Société des Américanistes de Paris*, n. s., t. XIII, Paris, 1921), quotes from Cobo that the ancient Peruvians "also knew the balances and the Roman (scales)," but this is from a footnote by the editor, Jiménez de la Espada, to the chapter by Cobo relating to the silver and gold workers among the Incas. See also Horacio H. Urteaga, *Las Maquinas Simples en el Antiguo Peru*, Lima, 1921.

¹⁴ Erland Nordenskiöld, *Comparative Ethnographical Studies*, I, pp. 178-179, Göteborg, 1919.

scales of the kind introduced by the Spaniards is a question that cannot yet be answered. Tello writes: "They weigh coca in a balance scale called *wipe* [fig. 116], which consists of an apparatus of

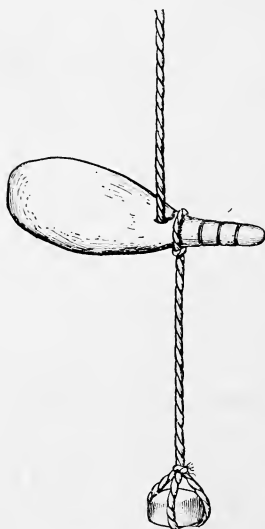


FIG. 116.—Modern balance scale from the vicinity of Casta, Peru. (After Tello)

wood of conical form, having a perforation near the neck, traversing which is passed a cord that serves to suspend it. In the smaller part or handle of the balance there are four grooves which fix determined weights, from which are hung by means of a cord or a rope the object which they wish to weigh.¹⁵

In conclusion it may be said that the balance-beam scale seems to have been invented in that part of South America where there was need of precision in weighing precious metals, and it appears to have been restricted to the areas where the greatest quantity of gold was found.

¹⁵ Julio C. Tello and Prospero Miranda, Wallallo: Ceremonies gentílicas realizadas en la región Cisandina del Perú central (Distrito arqueológico de Casta), *Inca*, tomo 1, Lima, 1923. Dr. Rivet has published a note on Tello's find in La Balance Romaine au Pérou, *L'Anthropologie*, t. xxxiii, Paris, 1923.

INDIAN NOTES

It is further evident that scales with wooden or metal pans were used exclusively for weighing metals, while those with nets or cords were employed in trafficking coca-leaves, cotton, and wool.

As to the weights, either stone or metal may have been used. Baessler figures three small metal objects which he conjectures were employed for that purpose.

MARSHALL H. SAVILLE

ARIKARA USES OF CLAY AND OF OTHER EARTH PRODUCTS

THE MEANS employed by the Arikara of staining or dyeing willow-bark for the decorative patterns in making baskets was by burying the strips of bark in black mud.¹ Štešta-kata, in making her baskets, buries the bark strips in the black mud of a spring flowing out from a bed of lignite near her house, but she said that the black mud of humus soil of the river-bottoms would do as well.

Another product of a mineral spring which was used for dyeing, or rather for black designs on skins, and for outlining designs for filling in with beadwork or quillwork, is spoken of by the Arikara as "native ink." It is a brown-black, heavy,

¹ See *Indian Notes*, April 1925, p. 91.

INDIAN NOTES

viscous substance found in a certain spring on the Fort Berthold reservation, North Dakota. So far as we are informed, this is the only spring where the substance occurs. The Arikara go to this spring for it and use it fresh, or it is dried and put away for future use. The dried substance assumes a rough, granular form; when desired for use it is simply wetted with water to the desired consistency.

A fine white powder made by heating selenite crystals was used for cleaning, brightening, and giving a gloss to porcupine-quillwork, and it was used also for cleaning and finishing arrows or any other objects in which glue was used. The fine white powder absorbed the superfluous glue and gave a smooth finish to the work.

A favorite play among young boys of all the tribes of the Missouri River region was modeling in clay. Any sufficiently tenacious clay was used in shaping the forms of buffalo, deer, horses, dogs, elk, and other animals, and men. It was an occupation that engaged the attention and activity of boys for hours, and they produced strikingly realistic representations.

There are no deposits of sodium chloride in the country of the Arikara, nor within hundreds of miles of it; therefore they resorted to the use of the water of alkaline springs and ponds to procure a

INDIAN NOTES

substitute for salt to season their meat. Or, when the water evaporated, leaving an encrusted deposit of alkali on the flats, this was gathered and saved for culinary purposes. At any time they wished to use it, the alkali dust was put into water and allowed to dissolve and the earthy matter to settle. Then the clear alkaline solution was drawn off to use in cooking. Salt was sometimes obtained from the Pawnee or other tribes in Nebraska and Kansas, or was brought directly by some of their own people on returning from southern expeditions; but salt was so precious, being brought so far, that generally it was used by the Arikara only as a medicine. In the medicine-bag of a certain Arikara old woman at the present time there is a small lump of salt which has remained over from the former times of scarcity and preciousness of that commodity, probably a hundred years ago.

Various clays were used for paints: certain clays for red paints, others for yellow, blue, black, etc. An old man of the Arikara engaged to procure for the writer specimens of all the clays and to make a set of the paints, teaching him the process, and to make on a cotton sheet a chart of all the Arikara honor marks for reference. For the reason that the old man had an attack of rheumatism soon after, he was not able last fall to carry out his engagement, as he was unable to wade into the

INDIAN NOTES

river to obtain a certain clay from the clay-bank under water, and also unable to go to certain distant places to obtain the clays for other colors. A certain white clay was, and is, used for the purpose of cleaning articles of clothing, furs, feathers, and such things. This clay was cooked with dog fat, and then stirred and kneaded like dough. After this preparation it was packed away for use at any time it was required. When Arikara girls go away to boarding schools they are provided by their loving and careful mothers with a supply of this prepared clay for the toilet. It is considered superior and is much preferred to the white people's toilet soaps.

The Arikara and Pawnee were acknowledged by neighboring tribes to be superior potters in former times. An old man of the Yankton Dakota informed the writer that the women of his people used to go to the women potters of the "Padani," i.e., the Pawnee or Arikara, and pay them fees to teach them the potter's art. He said, however, that the Yankton women never equaled the work of their teachers, the Padani.

The materials used in pottery were a certain fine tenacious clay found in deposits in various places in the upper Missouri River region, together with a tempering of crushed and pulverized stone. Granite boulders of glacial origin were used to provide

INDIAN NOTES

heat in the sweat-lodge. After being heated in fire many times for this use, they became friable, and in this condition were taken by the potters and crushed very fine. The potter took a quantity of the clay, sufficient for a pot of the size she had in mind. She placed a flat boulder for use as a working table on a hide spread on the ground, the hide being for the purpose of catching any of the loose crushed stone that might fall from the stone working table, so that it might be gathered again for use. She took the lump of clay on the stone table, thoroughly kneaded it with her hands, and mixed with it what she judged to be a proper amount of the crushed stone for tempering. Now she shaped the tempered clay, working it out from the bottom upward to the top. When she had approximated the shape of the pot, she took in her left hand a smooth, round cobblestone, which she inserted in the pot. In her right hand she took a wooden tool like a flat club, eight or nine inches long, with which she beat the clay against the shaping stone held in the other hand. When she had drawn up the clay to the proper shape and sufficiently thin, she applied the desired pattern of decoration by incision with a small pointed and edged wooden tool, or by pinching and crimping the edge of the pot with thumb and finger.

When the shaping and decorating were finished,

INDIAN NOTES

she set the pots away for twenty-four hours in a place where they were protected from air-currents and from jarring, during which time they became dry. For the purpose of firing the pots, a fire-bed of sufficient size, made of dry elm-wood, was laid. After kindling, this was allowed to burn to a good bed of coals. A place was hollowed out in the coals and the pot carefully



FIG 117.—Arikara medicine cup and bowl of pottery. Diameter of cup, 5 in.; height of bowl, 4 in.

placed therein. Then the coals were heaped around and in the pot, and more dry elm was laid on and around the pot, sufficient to make it red-hot. The fire was allowed to burn down, and the vessel to cool slowly and very gradually. The pot was then finished by greasing and rubbing it, which was said to give it a fine, black, glossy appearance.

INDIAN NOTES

Elm-wood was used for the firing process for the reason that it burns quietly and steadily, not snapping and crackling as do some other species of wood.

MELVIN R. GILMORE

DR. MELVIN R. GILMORE of the Museum proceeded in June to the country of the Osage Indians in Oklahoma, where he succeeded in making ethno-botanical collections and in recording the plant lore of those people, notwithstanding the lateness of the season. In the following month he went to North Dakota, where among the Arikara he again witnessed the Mother Corn ceremony, which was performed with a different sacred bundle from that used in 1924. Dr. Gilmore was enabled to procure much more information on and to gain a clearer insight into that rite than had ever been possible before, and he obtained other ethnologic data as well. In September he pursued his investigations among the Omaha and Winnebago tribes, and by the middle of October was with the Santee Dakota, preparatory to further studies. Dr. Gilmore reports that he is succeeding in having made satisfactory translations of some of the George Bush-otter and other texts with the aid of a Santee who lived twenty-five years among the Teton of Rosebud Agency.

INDIAN NOTES

AN EARLY LONG ISLAND TRAGEDY

IN THE collection deposited in the Museum by the Long Island Historical Society is the greater part of a human ulna splintered and transfixed by a brass arrowpoint. The only data concerning this specimen is a note that it was found at St. James, Long Island, in 1878.

From the size and shape of the arrowpoint it would appear that it had been lashed to a shaft shot by a local Algonkian Indian, for it is not of the type known to have been preferred by the Iroquois of central and western New York. There is no evidence whether the victim was white or Indian, since there is no information respecting the manner in which his remains were interred. It is possible that the slain person was a roving Iroquois, for it is known that the Mohawk raided Long Island; yet the Algonkian Narragansett from

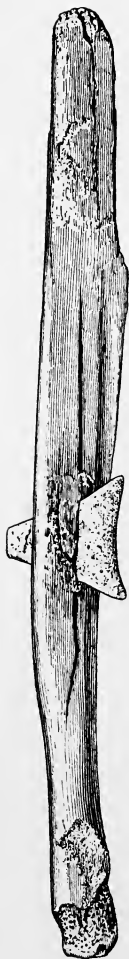


FIG. 118.—Human ulna penetrated by a metal arrowpoint

INDIAN NOTES

the mainland to the north across the sound were addicted to the same practice.

All that we can now tell about this interesting specimen is that the victim probably did not live long after the wound was inflicted, for the injured bone exhibits no indication of healing. Even if the unfortunate person did not receive other and more immediately fatal wounds, the shaft that penetrated the ulna delivered a mortal thrust, for the brass of which the point is made would doubtless have infected the wound, and, in the absence of adequate treatment, would soon have caused death. At the same time, one would suppose that, in a case of this kind, where the arrowpoint lay so near the surface, even primitive Indians would have found a way to extract it, if the victim was otherwise uninjured and effected escape from the scene of battle.

Other examples of arrow wounds in human bones and tissues are to be seen in the collection from the famous Burial ridge at Tottenville, Staten Island, gathered during excavations conducted by the late George H. Pepper and now in the American Museum of Natural History of this city. These specimens, however, all show injuries made by arrowpoints of stone, bone, and antler, and therefore antedate the example herein described.

ALANSON SKINNER

INDIAN NOTES

OLD LOUCHEUX CLOTHING

SEVERAL years ago the Museum acquired on Long Island, N. Y., a small ethnological collection



FIG. 119.—Loucheux man's costume

which included a suit of skin clothing from the Loucheux Indians of Alaska and Canada (fig. 119), a rare example of the type of outer clothing worn

INDIAN NOTES

anciently by the far northern Athapascan Indians. The suit consists of a hood, a shirt, mittens, and trousers with moccasins attached. All the pieces are made of dressed caribou-skin, sewn with sinew and ornamented with strips of dyed porcupine-quills. One edge of a broad strip of quillwork, sewn to the shirt at the shoulder, extends across the breast to the other shoulder, giving to the garment a cape-like effect in front. The fringes on this strip are wrapped with porcupine-quills and strung with silverberry seeds (*Eleagnus argentea*). The cuffs of the shirt, as well as the border, are strips of quillwork, and the latter is provided also with a quill-wrapped fringe. The peaked tails of the shirt identify the costume as that of a man, for according to the writings of Sir John Richardson¹ the men alone wore these peaks before and behind, the women having a larger back skirt, but none in front (fig. 120). The lower garment, a combination of trousers and moccasins, has long strips of porcupine-quillwork extending from ankles to hips along the front seam of each leg, a narrow strip around each ankle at the top of the moccasin, and a short piece with each end sewed to the long strip just below the knee, forming a garter for holding the trousers in place at the knee. The hood and the mittens are em-

¹ Arctic Searching Expedition, vol. 1, London, 1851, p. 380.

INDIAN NOTES



FIG. 120.—Costume of Loucheux man and woman. (After Richardson, 1851)

INDIAN NOTES

bellished with colored porcupine-quills, and the former has a quill-wrapped fringe along the lower edge.

Judging by Richardson's description (p. 382) the suit referred to and illustrated by him is a kind of dress suit, which was donned every evening after camping while on a visit to a trading post or on any other special occasion. The everyday clothing was not so highly decorated and usually had the hair left on for warmth.

The type of clothing worn by their ancestors is now unknown to the Loucheux, for they commenced to copy the European style of dress soon after the advent of the whites early in the eighteenth century; therefore specimens of the ancient garments are extremely rare. During his trips to the Canadian Northwest and Alaska for the Museum in 1917 and 1919, the writer obtained from the Loucheux and other northern Athapascans a number of conventional garments made in imitation of European styles, but of all the examples of rabbit-, caribou-, and sheep-skin clothing, there is only one piece, a woman's dress, that even suggests the ancient type. During a residence of five years in the heart of the Loucheux country, he neither saw nor heard of a single ancient garment.

DONALD A. CADZOW

INDIAN NOTES

ANOTHER INDIAN VILLAGE-SITE ON STATEN ISLAND

It is not often that the amateur student of archeology discovers a hitherto unknown Indian village- or camp-site of any size or importance within the limits of New York City at this late date, but Messrs. Howard Smolleck and Harry Vacher, two New York schoolboys, have earned the credit of just such a find. Curiously enough their discovery was made on Staten Island, where the aboriginal remains have been most carefully studied and mapped for many years, and by various archeologists and collectors.

The newly-found site is situated on a little ridge of land at Green ridge, south of the famous site on Lake's island, and near the Rossville brick-yards. The ridge, which ends abruptly near a salt meadow creek, is concealed by underbrush until one fairly stumbles upon it. It was formerly covered with a thin surface layer of sand, which has been washed away by rains, leaving the clay hardpan beneath, now deeply eroded. On this hardpan specimens of fire-cracked stones, flint chips and spalls, and implements occur in some abundance, although the area of the site is small, not more than a few acres. So far Messrs. Smolleck and Vacher have found no fewer than seventy-one arrowpoints, seven

INDIAN NOTES

scrapers, including one stemmed scraper and another made from the tip of a broken arrow-point; three drills; four net-sinkers; six hammer-stones, both with and without pits; three banner-stones, one not perforated but otherwise complete, and two fragmentary; three argillite blades; two crude stone hoes, one grooved ax, and two gun-flints; besides some potsherds. The greater part of the finds was made by Mr. Smolleck.

Of these interesting and relatively numerous objects, Mr. Smolleck has presented to the Museum two fragmentary banner-stones, one, an oval form, being of special interest because it had been broken in aboriginal times, and afterward grooved about its short axis and mended by lashing. From Mr. Vacher the unfinished winged banner-stone was obtained in exchange.

ALANSON SKINNER

POTTERY REPAIRING AND RESTORING

To THE end that the large pottery collections of the Museum may be made available for students, as well as for public exhibition so far as may be needful, it has ever been the policy to repair and restore such earthenware utensils as are not in good condition when they are received. Field parties of the Museum have sent to New York great

INDIAN NOTES

gatherings of pottery, some of which have been buried in archeological sites for centuries. It stands to reason that while perfect receptacles are not uncommon, broken vessels are far more numerous, having been subjected to dampness and to the pressure of many tons of earth and stone, and, in some parts of the country, to the aboriginal custom of sacrificing the pottery to the dead by breaking or "killing" it.

The Museum is often asked for information respecting the process that has been successfully employed in repairing and restoring its earthenware receptacles, and it is by reason of this interest that the present account is given. The larger museums employ preparators especially adept in work of this kind, but owing sometimes to lack of means it unfortunately often happens in the smaller museums and in private collections that vessels broken in many fragments are stored away, of little use either for exhibition or for study. The process followed by this Museum is not unlike that pursued by others, the variation lying chiefly in methods of procedure and to some extent in the materials employed. After experimentation through many years the process of repairing and restoring herein described has been found to be the most effectual in every way.

It is the practice of field-workers to segregate

INDIAN NOTES

the groups of pottery fragments, which can always be done when the broken vessels are isolated or are found in graves. When, however, the parts are scattered or confused with those of other receptacles, it is the custom to regard them for the time as pertaining to a single lot and to label and pack them accordingly, the classification being done after their arrival at the Museum laboratory. It not infrequently happens that pottery is found in muck or in sticky clay, which, adhering to the potsherds, makes classification impossible without washing, for which there is usually no opportunity while field-work is in progress. It is almost needless to say that care should be exercised to gather every bit of the pottery, as each particle, especially if it bears painted decoration, might prove to be vital to the vessel when repaired.

On reaching the laboratory the fragments are carefully washed, special attention being given to the edges; for edges with adhering dirt, grit, or tiny rootlets cannot be thoroughly fitted, hence perfect results in repairing are not possible.

No attempt should be made to assemble the sherds of a vessel until they are thoroughly dry. It requires little practice to enable the repairer to classify most of the fragments roughly by position—for example, the neck and rim pieces, the bulging sides, and the base, in separate groups, if the vessel

INDIAN NOTES

is jar-like. Matching is thus made possible with a minimum of labor and handling. If several similar vessels are represented among the sherds, as sometimes occurs, there is usually some telltale feature to enable approximate assemblage of the sherds according to the vessels to which they respectively pertain, such for example as difference in tint or finish of the surfaces or the edges, or in the character of the clay or tempering. As many as fifteen vessels of similar form and texture, broken into thousands of pieces and seemingly inextricably confused, have been successfully repaired at the Museum when patience rather than skill was required.

If most of the parts are present, it is usually well to commence with the base of the receptacle and build upward; but should most of it be lacking, it is often found necessary to assemble any rim fragments first and to build downward. Let us assume that the edges exhibit clean breakage, that is, they have not been abraded by burial or otherwise—that the pottery is durable and the edges not crumbled. We are now ready for cementing the related pieces together.

Various kinds of adhesives have been used in pottery repairing, the most unsatisfactory of which is glue of any kind, since it readily softens in humid weather. Hundreds of glue-repaired earth-

INDIAN NOTES

enware vessels have collapsed, even in museums. In our experience the most satisfactory cement that can be used in pottery repairing is a liquid celluloid (purchasable under the trade name "ambroid"), for the reasons that it occupies practically no space in the joints (if properly applied its shrinkage is about seventy per cent), it is thoroughly moisture-proof, and is easily dissolved or removed with a solvent if necessary.

Let us assume that we are repairing a jar from the base upward. A thin solution of the cement is applied with a small paint-brush to the edges of two related pieces, care being taken not to allow the cement to extend beyond the points of contact; in a few seconds the solvent in the cement commences to evaporate, leaving a gummy film. The two sherds are now pressed firmly together, causing the surplus cement to squeeze from the joint, both back and front. This insures a perfectly close joint and an even contour—both very essential if the vessel is to assume its original form.

For setting up the joined fragments while the cement solidifies, a shallow box of fine sand is convenient. The adhering pieces should be set upright in such manner that they will not lean one way or another to disturb the joint. If not too large or heavy, several cemented sherds may thus be set up at once.

INDIAN NOTES

It is well to allow the base of the vessel to become firm before attempting to cement other pieces to it. When properly applied and per-



FIG. 121.—Parts of jar from Pueblo Grande de Nevada in process of restoration

fectly dry a cemented joint becomes stronger than an unbroken part of the vessel. Often a small triangular space will be noted adjacent to two or more pieces that are to be cemented together,

INDIAN NOTES

in which case it is well to fit in this lesser piece, unless it should be missing, before cementing the others.

After all available sherds have been cemented in place, a number of pieces may be lacking, as in the case of the vessel illustrated in fig. 121, which however is sufficiently complete to show its original form. In such condition it is difficult to preserve a vessel from further breakage even with careful handling, hence the process of restoring with plaster becomes desirable, which not only gives additional strength, but affords a thorough conception of the original form and makes the vessel exhibitable. Complete restoration is not undertaken unless it can be done without conjecturing what the true shape of the receptacle had been. The vessel in the illustration referred to required no such guesswork.

The work of restoration is not so difficult as it would seem; indeed the process is really easier than the matching and repairing. The necessary tools are two or three plaster-working spatulas of varying sizes, a thin-bladed knife such as is used by shoemakers, a plane two or three inches long, some coarse and fine sandpaper, a rolling-pin, and a spoon for mixing the plaster. The materials are plaster of paris (known as dental plaster), composite modeling wax, fluid shellac, and oil colors.

INDIAN NOTES

With the illustrated fragmentary jar as a model, we will commence by treating the lower part, first filling the small openings to strengthen the weak places.

On a pane of thick glass or a smooth board, made wet to prevent adhering, we roll out with the wet rolling-pin a lump of the wax to a uniform thickness of a quarter of an inch, more or less, according to the size of the openings. A piece of the rolled wax is now placed under the opening to be plastered, on the inside of the jar, and pressed carefully into close contact with the surface of the pottery surrounding the opening. To fit better the curve of the jar, the wax should first be shaped to its form by pressing it lightly on a nearby area of the pottery having the same curvature. When the wax is in place under the opening, a shallow depression results; in this the plaster is poured.

To mix the plaster, place sufficient water in a cup or a small bowl (discarded waxed paper drinking-cups are used in this Museum) and put the dry plaster in slowly with the spoon, letting it settle until the water will absorb no more; that is, until the plaster comes to the surface. Stir it very slightly with the spoon and the consistency will be that of heavy cream.

Now with one of the spatulas apply the plaster

INDIAN NOTES

first to the edges of the pottery surrounding the opening to be restored. This is important, because the comparatively thin plaster will adhere to the earthenware edges better than a thick mixture. Continue the filling-in process in this manner, from the edges toward the middle of the opening, until the plaster commences to thicken, when it may be applied in larger quantities and smoothed with the spatula. It is not advisable to shape the mass, however, until it is nearly dry, when it may be more readily trimmed with the thin-bladed knife.

So far the process is very simple; but when filling the larger spaces it is sometimes necessary to apply the plaster in sections. For example, supposing the small opening in the right-hand side of our jar to have been filled, in filling the large opening in its front part, a piece of sheet wax of sufficient size to underlie about half the aperture is pressed lightly to the under side of the vessel, as in the case of the small opening, for the purpose of getting the exact curvature. Should the wax have a tendency to adhere too firmly, a light dusting with powdered talc will overcome the difficulty. The wax sheet may now be moved along on the inside of the vessel until it covers half of the large opening, but overlapping the edges sufficiently to enable pressing against the pottery wall

INDIAN NOTES

within. It must be seen that the curve of the wax conforms to the curve of the vessel, and adjusted by gentle pressure with the fingers if necessary; but ordinarily the wax may be slipped



FIG. 122.—The jar restored

into the desired place beneath the break without disturbance.

The plaster is now applied as before. When it is well set, but still moist, the wax sheet should be

INDIAN NOTES

removed from beneath to prevent absorption of oil from the wax by the plaster when dry, rendering it too hard for ready manipulation. The remainder of the opening in the wall of the vessel may be treated in exactly the same manner. When a restoration is made in sections and for any reason a section has been permitted to dry before the remainder of the aperture is filled, the dried part should be well moistened with water before the fresh patch is applied to its edge.

The neck and rim of a vessel may be built up in the same way as the body, in sections if necessary; but the restoration should be shaped rather roughly with the spatula, leaving enough of the plaster for final trimming when dry. For this purpose the small plane is effectual. Of course the plaster may be more easily cut before it is quite dry, but the use of sandpaper for ultimate finishing is much more effective when the plaster is entirely dry. The careful artisan will avoid abrading the edges of the vessel in smoothing the filling.

The plaster patches having now been trimmed and smoothed uniformly with the pottery surface, they should be treated with a coat of thin shellac applied with a soft brush. Then the entire vessel may be sponged with clear water to remove any remaining traces of plaster or dust.

Finally, the restored parts are painted with oil colors thinned with turpentine and stippled to

INDIAN NOTES

obliterate the brush-marks. A non-glossy paint is preferable. The tints, of course, depend on the colors of the vessel. No attempt should be made to match the pottery colors so faithfully that the restored parts are not readily distinguishable.

Even to one who lays no claim to manual dexterity the method of treating broken pottery herein described will by no means prove difficult. The handling of the wax for underlaying and the mixing of the plaster to a proper consistency may cause a little trouble at first, but this will be overcome by practice. Should the plaster commence to set too quickly, it should never be thinned with water, but should be discarded and fresh plaster mixed.

The sherds of the fragmentary vessel described were hard and their edges practically as clean as when broken, consequently they were easily assembled and repaired. In many other examples, however, the fragments are very soft, owing to inferior clay, partial decay, or faulty firing, and their edges moreover are greatly disintegrated and the surfaces so flaky that it is impossible to wash them. In such cases it is necessary to clean the sherds with a soft brush and saturate them with a very thin solution of the celluloid cement before attempting to assemble and restore them.

WILLIAM C. ORCHARD

INDIAN NOTES

INDIANS OF SURINAM

IN FORMER issues of *Indian Notes* brief accounts of a few of the writer's field activities in behalf of the Museum have been presented. During recent months he has gathered for the Museum about four thousand ethnological objects, representing twenty-two tribes, in Panama, Peru, Bolivia, Chile, Surinam, Trinidad, and Dominica, together with interesting archeological collections from Chile and Panama.

The most recent gatherings were among the Indians of Surinam, who are decreasing very rapidly in numbers and have practically abandoned all primitive arts and customs. In the colony there are now probably not more than one thousand Indians, comprising only five tribes. These are the Carib, Arawak, Warrau, Trio, and Akawoia. Unlike British Guiana, the hinterland of Surinam is almost totally uninhabited, the Bush negroes, or Djoekas, extending barely one hundred and fifty miles up the rivers, and the Indians being confined to the coastal district and the Brazilian border. Undoubtedly this dearth of inhabitants in the interior is due to the relentless warfare waged for many years against the Bush negroes, during which the Indian allies of the whites were wiped out by the black men, who

INDIAN NOTES

exceeded them in numbers, whereas in British Guiana the Indians were more numerous than the Djoekas and exterminated the latter. The coastal tribes (whose farthest villages are barely sixty miles from the sea) are wholly Arawak, Carib, and Warrau. Of these the Carib are the most numerous, and have been influenced the least by contact with whites and negroes. Few of the Arawak retain anything of their primitive ways, and the Warrau even less. Among the Carib there are many of pure blood, with a fairly small proportion whose blood is mixed with negro, Chinese, Javanese, or European. Among the Arawak the mixed-bloods exceed those of pure Indian descent. In many districts also the Arawak and Carib have mixed, and the few primitive customs preserved are in no way typical of either tribe. In some villages, however, the *peaiman*, or medicine-man, still practises his profession, and in nearly all the villages, especially those of the Carib, the people wear only the fringed Carib breech-cloth, and the women retain their tight ligature-like leg- and arm-bands of woven cotton. Bows and arrows are still used to some extent; basket weaving is an important industry; and during ceremonial dances feather crowns, clubs, teeth necklaces, and cotton head-ornaments are worn. All of these, as well as fish-traps, a

INDIAN NOTES

remarkable rat-trap of unique design, drums, flutes, rattles, wooden stools, charms, feather ornaments, etc., were obtained.

It is in pottery that the Surinam Carib excel, and a very large and complete collection was procured. Of all the Carib tribes those of Surinam alone have retained the art of making this striking pottery, with its buff and red colors, and ornamentation of narrow black lines and figures. Of special interest are the earthenware figurines, in which animals predominate, although practically every natural object, animate and inanimate, is reproduced. The exact use or purpose of these effigies is not definitely known, and the Carib are reticent on the subject. As in many ways they are much like those obtained from the Guaymi of Panama, who use them in ceremonies, it is highly probable that the Carib figurines were originally employed for a similar purpose. In fact I found certain forms in use in *peai*, these being coated with white paint made from kaolin, in one or two villages. At the present time, however, the figurines appear to be more in the nature of toys or ornaments.

I could find no important differences in the dialects of the Surinam and British Guiana Carib and Arawak, although in the forms of their houses and in physical appearance they are rather

INDIAN NOTES

distinctive. No doubt this is attributable to the intermixture of Carib and Arawak in Surinam, and to the influence of the Bush negroes. A representative collection was secured which well illustrates their wood-carving and other arts. I found no trace of the use of the blow-gun and poisoned darts among the Surinam tribes, although the weapon is still widely used by the British Guiana Indians. Nor did I find any of the "*beenas*," so common to British Guiana, among the Surinam Indians. The nose-beena, ant-beenas, and others, are wholly lacking, although one very old Arawak stated that he could remember when his tribe used the ant frames. The memory of it, however, was so dim that he could not even remember how to make one.

The effects of civilization, Christianity, and contact with other races have made far more rapid inroads on the Surinam tribes than on those of British Guiana, owing to the better transportation systems of railway and river boats in Surinam, and the fact that all the Indians, with the exception of the few Trio and Akawoia on the Brazilian frontier, dwell within comparatively easy reach of the settlements and of Paramaribo. In many of the villages there are churches, schools, and police; a sanitary inspector of the government visits them and strives to enforce sanitation; and

INDIAN NOTES

the majority of the men, who are inclined to work at all, are employed as laborers in the bauxite mines, on the timber grants, or by the balata gatherers. No governmental supervision or protection of the Indians exists as in British Guiana, with the result that the tribes are at the mercy of whites, blacks, and others. Within the last five years the Indians have decreased fully fifty per cent, and within a few years more they will completely disappear as a distinct people.

A. HYATT VERRILL

A STATEN ISLAND PETROGLYPH

A NUMBER of years before his death in 1924, the late George H. Pepper, of the Museum, obtained from Mrs. George Decker, of Tottenville, Staten Island, the engraved slab shown in fig. 123. This object, of reddish sandstone, was found on the surface of the famous Burial ridge, not far south of the old Billop house, and bears on its surface a number of crudely incised figures which perhaps represent the mythical thunderbird of the Algonkians. The resemblance of the hour-glass-like figures shown in the lower halves of the illustration to the conventional thunderers as depicted on the woven bags and the engraved birch-bark scrolls of the Central Algonkians is

INDIAN NOTES

very close. Moreover, the writer, while engaged in 1902 in the exploration of the ancient Shinnecock Indian village-site at Shinnecock hills, Long Island, under the direction of Mr. M. R. Harrington, found a similar but more realistic figure etched on a potsherd,¹ which is almost identical with modern Western examples.

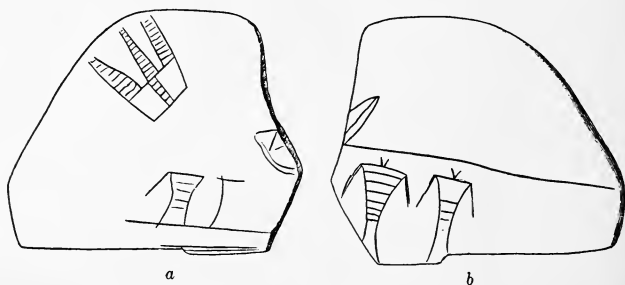


FIG. 123.—Petroglyph from Staten Island

In fig. 123, *a*, is shown, near the upper part of the slab, an incised design which possibly may be the conventionalized tail of an eagle, judging by other known figures, an emblem appropriate for depiction on the same field with a thunderbird, which is a mythical eagle with supernatural attributes.

¹ Harrington, M. R., An Ancient Village Site of the Shinnecock Indians, *Anthr. Papers Amer. Mus. Nat. Hist.*, vol. xxii, pt. v, fig. 32, *e*, p. 273, New York, 1924. Skinner, Alanson, The Algonkin and the Thunderbird, *Amer. Mus. Journ.*, vol. xiv, p. 71, New York, 1914. The Indians of Manhattan Island and Vicinity, *Guide Leaflet Amer. Mus. Nat. Hist.*, 3d ed., no. 41, p. 63, New York, n.d.

INDIAN NOTES

Engraved stones have been reported from the vicinity of Trenton, New Jersey, from Long Island, New York, and from other localities in the Coastal Algonkian region, but they are exceedingly rare. Scratched or etched figures occur also inland, throughout the territory once occupied by Algonkian tribes at least as far west as Wisconsin, on otherwise unworked stones or on polished stone objects, such as gorgets, pendants, "plummets," and banner-stones.

ALANSON SKINNER

A CROW SHIELD

THE number and diversity of sacred objects among the Crow Indians was possibly greater than among many, if not all, of the Plains tribes. I will not here discuss the possible reasons for this occurrence, one of which may be explained by the story of the origin of the shield illustrated in fig. 124.

This shield was originated by a Crow named Red-Woodpecker, who once fasted at a place called by a name that means "Rimrock-has-no-road," a few miles north of the present Billings, Montana.

In this fast Red-Woodpecker received a vision in which a kingfisher appeared to him; but, not

INDIAN NOTES

being satisfied with his vision, he later fasted on one of the buttes at the southern entrance of Pryor gap. During this fast he heard a voice saying, "That loud-voiced chickenhawk is calling you again."

When he heard this, Red-Woodpecker realized that he must return to his first fasting place at Rimrock-has-no-road, which he did, fasting the third time. In the vision which appeared during this fast he saw a bird which appeared to be caught in a hole. He went to the bird, seized it, and found it to be a spotted swallow. Greatly disappointed, he decided to return home, but again a voice spoke, "Do not go; Shaking-Bird wants to visit you."

Red-Woodpecker decided to remain, and he fasted four days and nights, when he commenced to feel very weak. At daybreak of the fifth day it began to rain. Soon afterward he saw a chickenhawk flying above him, presently followed by more of its kind until at last a great many appeared, making much noise with their wings. Suddenly a severe storm arose, and when it was about half spent, a rider appeared in the distance. The man rode a calico horse with a white spot on its neck, and carried a shield on his back. An eagle wing-feather was attached to the tail of the horse and to its forelock was tied a wing-feather of a chicken-

INDIAN NOTES

hawk. Fastened to his own hair the rider wore an eagle-bone whistle with four feathers attached to it. The man's face was painted with white clay on both sides, but the central part was free of paint. As the rider came closer he sang a medicine-song and finally stopped a short distance away. The words of the song were, "They are singing among the pine trees."

After thus singing the man made a noise like a chickenhawk. Red-Woodpecker plainly saw his shield, on which were designs representing clouds and lightning.

A few large drops of rain fell after the song was finished, and the man in whom Red-Woodpecker recognized a chickenhawk personified said to him, "Shaking-Bird is coming to see you." He then turned and rode away.

Another person now appeared, also riding a brown horse. Red-Woodpecker realized that this person was Shaking-Bird. There had been painted on the side of the horse's neck a white spot, on which in turn was painted a circle surrounded with dark fringes representing the nest of a chickenhawk, and with dirt around the nest. Shaking-Bird spoke to Red-Woodpecker, saying, "If you paint this design on your horse, it will never be shot."

To the horse's foretop were fastened three or

INDIAN NOTES

four large grass-blades, and a single feather from the wing of a chickenhawk was tied to the horse's tail. In his hand Shaking-Bird carried a long stick painted with white clay, and fastened to his hair were two eagle-bone whistles with a chickenhawk wing-feather tied to each. On his left arm he carried a painted shield. The top and the lower third of the shield were painted a dark color, representing clouds and rain storms, but the area between these painted spaces, excepting the figure of a bird with outspread wings, was plain, indicating a clear day. At the end of each wing of the bird was fastened a cluster of chickenhawk-feathers, together with an eagle-bone whistle.

Suddenly this shield disappeared, and in its place Red-Woodpecker was shown a third one, through the middle of which a blue stripe was painted, while the lower part was embellished with a series of black perpendicular stripes. In the upper left quadrant of the shield was a crescent moon, and beneath it a cluster of three feathers; and a similar cluster was fastened to the upper right quadrant of the shield.

This third shield likewise vanished, to be followed by a fourth, painted as follows: In the upper left-hand corner a half-moon; black perpendicular lines, symbolizing clouds, occupied the upper third; in the center were zigzag lines

INDIAN NOTES

representing lightning, and below these were perpendicular lines to indicate rain. This is the shield illustrated in fig. 124 from the specimen in the Museum of the American Indian, Heye Founda-

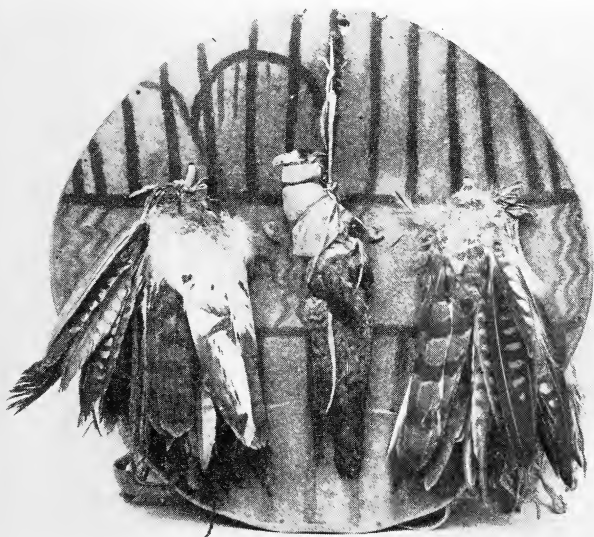


FIG. 124.—Crow shield

tion. The hawk attached to the middle of the shield was used as a war medicine, which in time of need was detached and tied to the hair of the owner. The bundle of hawk-feathers on each side

INDIAN NOTES

symbolized the hawk which appeared to Red-Woodpecker in his vision. Around the edges of the shield were fastened cut feathers, tied in pairs, the meaning of which could not be learned.

Three more shields were shown to Red-Woodpecker in this vision, the designs of which corresponded with the second, third, and fourth shields mentioned. The entire seven shields were reproduced by him from the dream. Three of them were made of heavy buffalo-hide and the remainder from the lighter parts of buffalo-skin. These four were often taken on the warpath, but the other three were used exclusively for home protection, only the attached insignia and the painted covers being taken to war. The designs of the lighter shields were all painted on the rawhide; the heavier shields were wrapped in painted covers.

The first shield made by Red-Woodpecker he kept for himself, while the others were transferred to various members of the tribe. Red-Woodpecker's shield was burned with all his belongings, after which he and all his family became ill and soon after died. The second and third shields were captured by the Piegan. The fourth was obtained from Mrs. Sits-In-The-Middle, who had inherited it from her husband.

WILLIAM WILDSCHUT

INDIAN NOTES

IROQUOIS FALSEFACE PIPE

AMONG the numerous gifts generously made to the Museum by Mr. Joseph Keppler is a stone pipe-bowl (fig. 125), said to have been unearthed on the Cattaraugus Seneca reservation in western New York. This pipe, which is skilfully carved, bears on the front of the bowl the representation of a wooden mask, or falseface, with flaring pouted lips, of a type still found among the Seneca and known to them as a "wind" mask.

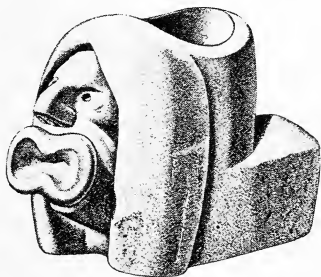


FIG. 125.—Iroquois falseface pipe. ($\frac{2}{3}$)

Although this specimen is said to have been found underground, there are two circumstances which indicate that it is not of great antiquity. First, nearly all ancient Iroquois effigy pipes have the face on the rear of the bowl, facing the smoker; second, the carving has the appearance of having been recently done with stone tools. The probability, therefore, is that it is in reality a pipe carved and used by a member of the Falseface Society of the Seneca within the last half century.

In appearance and material the pipe recalls the

INDIAN NOTES

stone charm maskettes sometimes found among the Seneca of the Cattaraugus reservation, and is an excellent example of the sculptor's art.

ALANSON SKINNER

MUSEUM EXPEDITION TO TIERRA DEL FUEGO

THE MUSEUM expedition to Tierra del Fuego had for its primary purpose the formation of a collection representing the material culture of the Ona and Yahgan Indians before those tribes should become extinct. The writer, accompanied by Mr. Linzee Weld, sailed from New York in October, 1924, reaching Punta Arenas on the Straits of Magellan at the end of November. By great good fortune we met Mr. Lucas Bridges in Punta Arenas and were able to accompany him to the large *estancia* managed by his brother, Mr. William Bridges, near the Rio Fuego on the southeastern coast of Tierra del Fuego.

The Bridges family occupies a unique position on the island. Descended from the founder of the English mission at Ushuaia, they grew up in intimate association with the Yahgan Indians. Later they pushed northward across the mountains and came into contact with the Ona, by whom they were made members of the tribe. Founding

INDIAN NOTES

a huge and successful sheep ranch on the southeastern coast of the island, during the years of its development they have maintained the most friendly relationship with both tribes and have constantly stood them in good stead in their dealing with white settlers, sometimes professional "head-hunters" and with a not over-solicitous government. The Bridges brothers speak both Ona and Yahgan well; they are minutely acquainted with every phase of aboriginal existence. The writer has met before white men who have had equal opportunities to observe Indian life, but never well educated enough and with such keen insight that they could talk about what they had seen like trained ethnologists. Enjoying the hospitality of the Bridges family, we obtained much information about the Indians and came into contact with them in the most advantageous manner.

Early in December we left Rio Fuego with two pack-mules lent by Mr. William Bridges, in company with an Ona named Halemink, and proceeded afoot toward Lago Fagnano. Before reaching the lake, however, we turned eastward to gain a small encampment near some lagoons, of which the largest is known as Laguna de Pescados. Here we encountered a difficulty which later we found wherever we went, namely, that

INDIAN NOTES

there were very few Indians alive who had made and used their primitive implements and accouterments, and that these old-timers were invariably aged, lazy, and unreliable. To obtain a collection it was necessary to have most of the objects made, and, thanks to the information given us by the

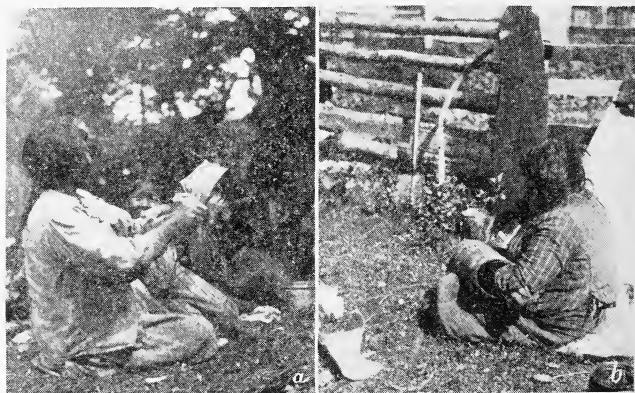


FIG. 126.—Yahgan women. *a*, Rope-making. *b*, Making a bark bucket

Bridges family, we not only knew what to get but how it should be made. As a result the Museum now houses a collection containing practically everything mentioned in Dr. Cooper's Bibliography.¹

¹ Analytical and Critical Bibliography of the Tribes of Tierra del Fuego and the Adjacent Territory, *Bull. 63, Bureau of American Ethnology*, Washington, 1917.

INDIAN NOTES



FIG. 127.—Yahgan encampment on shellheap near Tierra Mayor, Beagle Channel. Three families comprising eleven individuals occupied this wigwam

INDIAN NOTES

After spending several days with Halemink and getting him started on the work he promised to do for us, we moved to the southwestern corner of Lago Fagnano, where another small settlement of Ona was found. Here also we obtained specimens. Later we visited both these encampments again



FIG. 128.—The last Yahgan bark canoe ever used. (Courtesy of Rev. John Williams)

and also a new and larger camp to the northeast of Lago Fagnano.

Leaving Lago Fagnano we next went up a long, heavily-wooded valley and then crossed the mountains, the beginning (or end) of the Andes, by a pass about 2000 feet high, and, after crossing the Rio Varela somewhat more than fifty times, reached Harborton on Beagle channel. Here

INDIAN NOTES

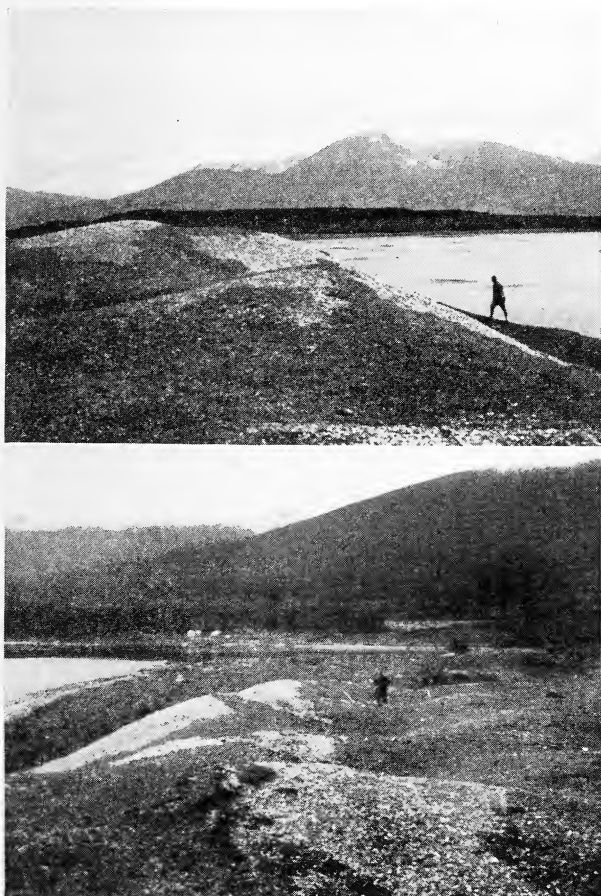


FIG. 129.—Shellheap on Navarin island

INDIAN NOTES

we were entertained by Captain and Mrs. Sigurd Nielson and Mrs. John Lundberg for several weeks.

Accompanied at times by Captain Nielson and Mr. Eric Fugelli we traveled in the boat formerly owned by Rockwell Kent² to visit Ushuaia, Remolino; Puerto Magallanes, Puerto Eujenia, and other points on Navarin island; also Gable



FIG. 130.—Ceremonial lodges. *a*, Ona, near Laguna de Pescados, Tierra del Fuego. *b*, Yahgan, Puerto Magallanes, Navarin island

island, Picton island, and Cambaceres bay. As a result we came into contact with almost all the surviving Yahgan Indians and obtained a collection which again includes practically everything listed by Dr. Cooper, as well as other objects as yet not described in print. In addition we inspected nearly eighty ancient camp-sites, thus

² Voyaging Southward from the Straits of Magellan, New York, 1924.

INDIAN NOTES

obtaining a small archeological collection. An especially thorough survey of the camps between Cambaceres and Thouctof bay was undertaken with a view of determining the density of the former population.



FIG. 131.—Ona Indian making a bow

The return journey was made by the same route, stopping for some time at Lago Fagnano, near Laguna de Pescados, and at a new Ona encampment near Lago Fagnano. Reaching Rio Fuego, we spent several days with the Bridges family during which archeological specimens were ob-

INDIAN NOTES

tained from nearby camp-sites and the collection packed. We then went to Rio Grande, where we stayed with Mr. John Goodall, finally returning to Punta Arenas by way of Cape San Sebastian and Porvenir.

Learning in Punta Arenas from Mr. Charles Kwanten of a Tehuelche encampment near the mouth of the Rio Gallegos, we persuaded Mr. Thomas Constanduros to drive us across to the Atlantic coast, passing through the curious volcanic Mt. Aymond district. The Tehuelche unfortunately had moved northward, but several painted robes were obtained which they had traded in at a store. We also had an opportunity to see the important archeological collection of Mr. John Hamilton, a pioneer survivor of the famous two-year drive which first introduced sheep into Patagonia, and who has collected archeological specimens ever since.

Since returning to New York the writer has received a letter from Mr. William Bridges who says almost all the Ona have died from an epidemic of measles and that resulting pulmonary diseases will doubtless carry off those who recover. There are only about twenty-five Yahgan left, owing to a similar outbreak of measles several years ago.

Tierra del Fuego enjoys a reputation of being a land of ferocious climate where no one can exist

INDIAN NOTES

without enduring unmitigated hardships, while the aborigines have been pictured, thanks largely to Darwin's remark that he regards them as no better than beasts, as outlandish remnants of the primal savage. In the view of the writer this estimate is not correct. In the first place, the climate, in summer at least, is decidedly pleasant, although of course the winters are long, dark, and severe. Food is relatively plentiful: fish, shellfish, and crabs can be obtained almost anywhere along the coast; guanaco, seal, otter, coruru (*Ctenomys magellanicus*), innumerable kinds of geese and ducks, plover, and snipe are common; edible berries (*Berberis buxifolia* and *Pernettya mucronata*), some not unpalatable, can be gathered in summer. Thus it is clear that the struggle for existence need not have been desperate if foresight was used—at any rate in the wooded portion of the island. The open plains of the north are less propitious for men, though better fitted for sheep. However, the guanaco must once have been very common in this part of the island—where the best feed is found—as it is today in Patagonia.

Physically the Ona and Yahgan are not unlike other Indians. The Ona, indeed, are the finest physical specimens ever seen by the writer, while the Yahgan clearly have unusually short legs. However, such peculiarities as can be seen with

INDIAN NOTES

the eye (or doubtless those detected by measurements) seem to fall within the general range of variation of the American Indian. The short, thick hair hanging low over the eyes, however, does give them an expression at first-sight ferocious. The Yahgan voice is soft and melodious, and the general tone employed in conversation is not unlike English. The Ona, however, employ a series of gutturals pronounced with strident and explosive violence when in the least excited, which makes the first night in their company a memorable experience.

Mentally the Ona and Yahgan are very different. The latter were solemn, serious, quarrelsome in the old days, and seldom given to joking. The Ona superficially recall our Zuñi Indians, though more aggressive. They share with the Zuñi an intense delight in a good joke and a hearty laugh, but in the old days they were repressed by a code of etiquette not unlike that which flourished in Europe in the times when men wore lace and fought duels. Both Fuegian tribes have been unable to live peaceably in large communities, but this was a question of game supply as well as of temperament.

It has often been said that the Fuegians had no religion—a complete misstatement, for both Ona and Yahgan believe in a series of malevolent spirits.

INDIAN NOTES

True it was that only infrequent attempts were made to propitiate these spirits, but they were not believed to interfere often with mankind, and they could be simply avoided instead of appeased.

On the side of material culture in general, both tribes were not badly off. The Yahgan had good spears, baskets, buckets, fish-lines, bird-traps, nets, etc. The Ona possessed a fairly good bow (with an ultimate range well over 200 yards), splendid arrows, a fish-spear, nets, skin bags, etc. It is true that the Yahgan bark canoe, frail and leaky, was a poor vessel to navigate the tempestuous and treacherous waters of the Horn, and one can give only unstinted admiration to the courage with which they chased seals and porpoises off-shore and even attacked whales. However, the real deficiency of both tribes lay in their clothing and houses.

Picture an old-time Yahgan facing the wintry waters of the Wallastons in the bow of his canoe, clad only in a couple of skins which scarcely enveloped his body and were shifted from side to side with the changing winds; or picture an Ona hunter, clad, to be sure, in a voluminous guanaco robe, but sleeping soundly, with his bare legs in the snow and with a block of frozen guanaco meat for a pillow! These men were more than men in their ability to withstand, half-naked,

INDIAN NOTES

a climate which calls for all the clothing of the Eskimo. And even in camp they were little better off, for the wind and snow must have penetrated mercilessly the dome-shape skin-covered hut of the Yahgan, while the Ona shivered behind a guanaco-skin windbreak with no covering overhead.

Here, then, in their seeming disregard of cold, lies the true distinction of the Fuegians. But back of the mere physical fact lies a mental attitude which can most simply be defined as a combination of fortitude and laziness. Granted that the implements of the hunt had to be well made to achieve their purpose, it was nevertheless possible to exist in the midst of discomforts of a nature easily eradicable by forethought and of a type which they were mentally equipped to compose. Today both tribes wear European clothes and have copied the primitive shanty of the white man. The Yahgan, living more in contact with white settlements and able to salvage sawed planks, have achieved a house which is at least water-tight. The Ona house, built of hand-hewn boards with twisting edges, often offers a series of inch-wide slits and is scarcely superior to their primitive windbreak. Such houses are only the family headquarters, and both tribes still spend a large part of the year out-of-doors. The Ona have learned

INDIAN NOTES

to build leaf-covered wigwams, not unserviceable in the calm of the forests to which they have been driven. The Yahgan erect similar but smaller wigwams on the shore, but cover them with bits of old burlap, so that they are really worse off than in the days when seal-skins at least kept out the rain.

S. K. LOTHROP

RECENT ACCESSIONS BY GIFT

From Mrs. F. A. Westervelt:

Small jar, brown ware; bowl, brown ware, painted black inside. Tularosa cañon, Socorro county, New Mexico.

From Mr. Howard P. Bullis:

Grinding stone; notched net-sinker; hammerstone; seven arrowpoints; crude hammerstone. Garretsen creek, Avenue U, Flatbush, Brooklyn, New York.

From Mr. Benjamin Lewis:

Seven chipped implements; grooved ax; twenty-three arrowpoints. Oritan village-site, near Teaneck, New Jersey.

From Mr. Harry Bennett:

Arrowpoint. West Englewood, New Jersey.

From Miss Harriett Brent:

Nine pottery heads; nine obsidian implements. Pyramids of Teotihuacan, Mexico.

Shell ear-plug; shell bead; potsherd. White county, Tennessee.

From Mr. William C. Banks:

Slate knife, incised decoration. Noroton river, Glenbrook, Stamford, Conn.

INDIAN NOTES

From Mrs. Morris Cohn, Jr.:

Two pottery figures. Pueblo.
Two birch-bark boxes. Huron.
Beaded belt. Caughnawaga.

From Mrs. L. Lamprey:

Abstract of Vincent Colyer's report on the Camp Grant massacre, Arizona.

From Mrs. John Jay White:

Six photographs.

From Mr. Everitt Terbune, in memory of Benjamin Hill:

Stone mortar. Pascack, N. J.

From Dr. Frederick B. Riggs:

Twenty-one publications in the Dakota Indian language.

From Dr. Philip W. Prior:

Jar. Patomak creek, Stamford, Connecticut.

From Mrs. Thea Heye:

Small poncho; three woven bags. Ancon, Peru.
Hand mirror with mosaic face of marcasite, and wooden frame on which is carved three human heads, decorated with painted designs. Coast of Peru.

From Mr. Hunter Wykes:

Indian bow; three arrows. Sauk and Fox, Oklahoma.

From Major Sherman Miles:

Piece of music: "Song of the Ghost Dance," by Short Bull.
Brochure, "Among the Sioux," by J. A. Anderson.
Two hundred seventy-seven photographs.

From American Geographical Society:

Fragment of pitcher; two potsherds. Tangolaya, near Puna, Peru.

Two potsherds; pottery human head. Tiahuanaco, Bolivia.

From Mr. T. F. Harnedy:

Fiber sandal; seventeen bone pendants; six corn-cobs; seed-pod; mummified bird; five potsherds. From a cave at Indian Springs, Nevada.

INDIAN NOTES

From Dr. F. G. Speck:

Ivory toggle representing a seal. Eskimo, Point Barrow, Alaska.

Wooden spoon, carved handle. Wampanoag, Fall River, Massachusetts.

Bone bow. Eskimo, Cape York, Greenland.

From Mr. Howard Smolleck:

Fragment of banner-stone; fragment of grooved slate banner-stone. Green Ridge, Staten Island, New York. (See page 296.)

Fragment of unfinished banner-stone. Rossville, Staten Island, New York.

From Mr. Max Schrabisch:

Unfinished banner-stone. Rockshelter on Shawagunk mountains near Port Jervis, Orange county, New York.

From an anonymous contributor:

Pair of child's beaded moccasins. Cheyenne.

From Mrs. Harry Bennett:

Arrowpoint. Teaneck, New Jersey.

From Mr. George D. Sterns:

Gouge. Kings Ferry, Cayuga county, New York.

From Mrs. M. G. Franklin:

Perforated natural concretion showing use as grinding stone. Kings Ferry, Cayuga county, New York.

From Mr. C. H. Pease:

Lead stem from which bullets have been cut; lead bullet; natural concretion; twenty-one arrow, knife, and spear points; two perforated brass arrowpoints; perforated brass dangler; brass dangler; handle plate from brass kettle; copper handle from kettle; fragment of brass ring; two iron tomahawks; gun flint; four celts; lot of cylindrical beads; lot of purple wampum shell beads; lots of white wampum shell beads; lot of glass beads. Mapleton, Cayuga county, New York.

INDIAN NOTES

From Mr. Roby H. Sisson:

Two celts; twelve arrow and spear points. Cayuga county, New York.

From Mrs. Hicks Arnold:

Book, "Igloo Life."

Pack of American Indian souvenir playing cards.

From Mr. J. C. Clarke:

Eleven photographs of pictographs.

From Mr. Dana Wright:

Report on observations on certain Indian remains at Spiritwood Lake, North Dakota. (MS.)

Map.

Lot of skeletal remains.

From Mr. Frederick Johnson:

Manuscript, "Expedition to the Island of San Miguel."

From Miss M. W. Weber:

Pair embroidered mittens. Cree, Hudson bay.

From Mr. David Talmage:

Thirty-eight arrowpoints. Easthampton, L. I., N. Y.

From Mr. Clarence Jones:

Arrowpoint. Nyack, N. Y.

From Mr. Frank I. Liveright:

Brass ring. Jacobs island, Kiwatha lake, near Peterborough, Ontario.

From Miss Eva Jane Smith:

Eighteen miniature ethnological specimens. Mexico.

From Mrs. Ethel A. Cleaves:

Five spindle-whorls; pottery bead; pottery figurine; four obsidian arrowpoints; small celt. Mexico.

Small stone pendant. California.

Four arrowpoints. Massachusetts.

INDIAN NOTES

NOTES

THE MUSEUM has been informed by the Librarian of the Public Library of Kansas City, Mo., that a coat and dress of a Pawnee woman, ornamented with 1500 elk-teeth, was stolen from the Daniel B. Dyer Museum of the School District of Kansas City in the Public Library building on August 12. It is expected that, unfortunately, the thief or thieves will be likely to strip the garments of their elk-teeth and to sell the latter wherever a market can be found.

REPRESENTING the Museum, Mr. Reginald Pelham Bolton and Mr. Alanson Skinner gave addresses before a large audience at the Inwood Potteries at Inwood, New York City, on American Indian Day, May 9th, on the subject of the Indian occupancy of Manhattan and its vicinity. At the annual pilgrimage of the Westchester County Historical Society the same representatives of the Museum delivered addresses on the archeological and historical problems of Westchester county. Mr. Skinner spoke before the Society during its stop at Croton point, taking for his subject the well-known walled fort that surmounts the ridge near where the point joins the mainland, and its significance in local Algonkian history.

INDIAN NOTES

A RARE and highly interesting book has been added to the library of the Museum as a gift from Mr. James B. Ford, being a copy of the earliest specimen of a museum catalogue in English. The title is:

Tradescant (John, 1608-1662). MUSEUM TRADESCANTIUM, or a Collection of Rarities preserved at South-Lambeth near London by John Tradescant. 12mo. Tradescant Arms before title, portraits of John Tradescant, the elder and younger, by Hollar, with modern reprints inserted, plate of the "Monument of the Tradescants" also inserted. Old light brown straight-grain morocco, blind tooling on sides and back. John Grismond: London, 1656.

The collection which afterward formed the nucleus of the Ashmolean Museum at Oxford, England, was of a most heterogeneous character, but the special interest of the catalogue to a museum today lies in the entries of ethnological material from the Virginia Indians, some of which are now exhibited in the Ashmolean Museum. Also noted are specimens from Greenland, Canada, and Brazil.

THE MUSEUM has been fortunate in obtaining by exchange with the Public Museum of the City of Milwaukee nearly all of the series of specimens collected from the Mahican (Stockbridge) Indians of Wisconsin by Mr. Alanson Skinner while he was Curator of Anthropology in that institution.

INDIAN NOTES

These specimens, which are figured in a brief article titled "Notes on Mahican Ethnology," published as volume 11, part 3, of the *Bulletin of the Public Museum of the City of Milwaukee*, consist of articles of clothing, ancient wooden bowls, ladles, and pestles, made in New York at least a century ago by the Mahican while still residing at their old home on the Hudson, about twelve miles south of Albany. With them are included several specimens made by the Montauk Indians of Long Island, and, like the Mahican articles, were carried west when some of the tribe migrated with the remnant of other local Algonkian peoples who made up the "Brothertown" mission settlement. Both the Stockbridge and Brothertown Indians have resided nearly a century in Wisconsin, and have made almost as prominent a place for themselves in the history of that state as they did in their ancient homes.

A RECENT publication of the new Sociedad de Geografía e Historia of Guatemala contains an article by Carlos E. Luna, bearing the title "Apuntes sobre Arqueología Nacional," which includes a translation of the text of *Leaflet* Number 1 of the Museum of the American Indian, Heye Foundation, "A Sculptured Vase from Guatemala," by Marshall H. Saville. Mr. Luna's article

INDIAN NOTES

is important in that it presents an account of the finding of the vase and of its subsequent history before it came into the possession of the Museum.

In the *Scientific American* for July appears an article on "Nevada's Lost City" which summarizes, in a popular way, the recent discoveries made by the Museum expedition at Pueblo Grande, near St. Thomas, Nevada. This is from the pen of Mr. Harrington, who had charge of the explorations. Another account of this work by the same author appeared in the *Union Pacific Magazine* for April, and also in the March-April number of the *Arrowhead Magazine*, another organ of the Union Pacific Railroad System.

INDEX

- Accessions* by gift, 77, 130, 239, 335
Algonkian burial site in Cayuga county, New York, 56
Ancient mosaic ear-plugs from Peru, 145; salt mine near St. Thomas, Nevada, 227
Arawana dance of Caraja Indians, 96
Archeological researches in Nevada, 125; specimens from St. Croix, Virgin islands, 109
Argentine, collections from, 83; expeditions to, 87, 257
Arikara basketry, 89; household shrine to Mother Corn, 31; units of measure, 64; uses of clay, 283
Art, Iroquois and New England, 1
Avery, G. W., activities, 246
Axe, monolithic, from Nicaragua, 34
Balance-beam scales in ancient Peru, 266
Basket, Pomo, 88, 102, 141; Quichua, presented, 88
Basketry, Arikara, 89
Bean, ground, and its uses, 178
Boas, Franz, lecture by, 86
Bolton, R. P., represents Museum, 339
Brazil, Caingang collection from, 245; Caraja and Cayapó artifacts from, 219; Caraja Indians of, 96
British Honduras, eccentric chipped objects from, 99
Bundle, tree-dweller, of the Wahpeton Dakota, 66
Burial site in Cayuga county, New York, 56
Cadzow, D. A., activities, 245, 246; Early Loucheux clothing, 292; Habitat of Loucheux bands, 172; Objects from St. Lawrence island, 122; Prehistoric Algonkian burial site in Cayuga county, New York, 56
Caingang collection from Brazil, 245
Caraja Indians, artifacts of, 219; Fish dance of, 96
Cayapó artifacts from Brazil, 219
Cayuga county, New York, Algonkian burial site in, 56
Central American expedition, 12
Central Eskimo and Indian dot ornamentation, 151
Chandler collection acquired, 243
Chile, archeological collection from, 244
Chipped objects from British Honduras, 99

- Clay*, Arikara uses of, 283. See *Pottery*
Clothing, Loucheux, 292
Corn. See *Mother Corn*
Crow Indians, love medicine of, 211; shield of, 315; skull medicine bundle, 119
- Dakota*. See *Wahpeton Dakota*
Dance. See *Fish dance*
Dance regalia, Jivaro, 214
Decoration of Southwestern pottery, 24
Dot ornamentation, Eskimo and Indian, 151
Dow, Emma, gift by, 84
- Ear-plugs*, mosaic, from Peru, 145
Earth products, Arikara uses of, 283
Eccentric chipped objects from British Honduras, 99
Ecuador, gold beads from La Tolita, 48
Eskimo. See *Central Eskimo*
Expedition to Argentina, 257, 322; to Central America, 12; to Tierra del Fuego, 322
- Falseface pipe*, Iroquois, 321
Fish dance of Caraja Indians, 96
Ford, James B., gift of book, 340
- Gamio Manuel*, note regarding, 142
Gilmore, M. R., activities, 134, 138, 140, 143, 289; Arikara basketry, 89; Arikara household shrine to Mother Corn, 31; Arikara units of measure, 64; Arikara uses of clay, 283; Ground bean and its uses, 178
Gold beads from La Tolita, Ecuador, 48
Gow-Smith, Francis, Arawana or Fish-dance of the Caraja, 96; Caraja and Cayapó artifacts, 219
Ground bean and its uses, 178
Guaymi. See *Sabanero-Guaymi*
- Habitat* of Loucheux bands, 172
Harrington, M. R., activities, 82, 87, 125, 246, 342; Ancient salt mine near St. Thomas, Nevada, 227; Obituary of Alanson Skinner, 247; Pueblo site near St. Thomas, Nevada, 74
Harrower, D. E., Rama, Mosquito, and Sumu of Nicaragua, 44
Hendricks, Harmon W., gifts by, 83, 88, 141
Heye, George G., Andrew Jackson's Indian pipes, 116; Eccentric chipped objects from British Honduras, 99

- Heye, Thea*, expeditions of, 87, 257
Hodge, F. W., election of, 144
Household shrine to Mother Corn, 31
Huntington, Archer M., gift by, 88

Indian wells on Long Island, 207
Indians of Surinam, 309
Iroquois and New England art, 1; falseface pipe, 321

Jackson, Andrew, Indian pipes of, 116
Jivaro, dance regalia of, 214

Karok, elkhorn spoon of the, 87
Keppler, Joseph, presents Seneca manuscript, 242

La Plata, Argentine, expedition to, 257
La Tolita, Ecuador, gold beads from, 48
Long Island, early tragedy on, 290; Indian wells on, 207
Lothrop, S. K., activities 86, 87; Expedition to Tierra del Fuego, 322; Museum Central American expedition, 12; The Thea Heye La Plata expedition, 257
Loucheux, clothing of, 292; habitat of, 172
Love medicine of the Crows, 211
Lovelock cave. See *Nevada*

Mabican collections, 340
Masks, Seneca, and their uses, 191
Measure, Arikara units of, 64
Medicine, love, of the Crows, 211
Medicine bundle, skull, of the Crows, 119
Messenger, John, collection presented by, 87
Mine, salt, in Nevada, 227
Mohegan articles recently acquired, 38
Monolithic axe from Nicaragua, 34
Moore, Clarence B., gifts by, 144
Mortar and pestle, Quinnipiac, 88
Mosaic ear-plugs from Peru, 145
Mosquito, Rama, and Sumu of Nicaragua, 44
Mother Corn, shrine to, 31
Motion pictures made by Museum, 134, 138

Necklace, Oto, 36
Nevada, ancient salt mine in, 227; archeological researches in, 125; porcupine quillwork from, 187; pueblo site in, 74; researches in, 82

- New England* and Iroquois art, 1
New York, Algonkian burial site in, 56. See *Long Island*; *Staten Island*
Nicaragua, monolithic axe from, 34; pottery collection from, 244; Rama, Mosquito, and Sumu of, 44
Nicholson, Grace, gift by, 87
Northern elements in Iroquois and New England art, 1
Obituary of Alanson Skinner, 247
Objects from St. Lawrence island, 122
Orchard, W. C., Fine-line decoration of Southwestern pottery, 24; Minute gold beads from La Tolita, Ecuador, 48; Jivaro dance regalia, 214; Porcupine quillwork from Nevada, 187; Repairing and restoring pottery, 297; Unusual Pomo basket, 102
Ornamentation, dot, of Eskimo and Indian, 151
Oto, necklace of the, 36
Paviotso, collection from the, 87
Peru, mosaic ear-plugs from, 145; scales in, 266
Petroglyph from Staten Island, 313
Pipe, falseface, of Iroquois, 321; of the Seneca, 231
Pipes, Indian, of Andrew Jackson, 116
Pomo, baskets of the, 88, 102, 141
Porcupine quillwork from Nevada, 187
Posnansky, Arthur, visits Museum, 88
Pottery from Nicaragua, 244; repairing and restoring, 297; Southwestern, fine-line decoration of, 24. See *Clay*
Prehistoric Algonkian burial site in Cayuga county, New York, 56
Publications of the Museum, 85, 245
Pueblo site near St. Thomas, Nevada, 74
Quichua basket presented, 88
Quillwork. See *Porcupine quillwork*
Quinnipiac, mortar and pestle, 88
Radio talks from Museum, 143
Rama, Mosquito, and Sumu, of Nicaragua, 44
Regalia, dance, of the Jivaro, 214
Repairing and restoring pottery, 297
Sabanero-Guaymi trip, 232
Saint Lawrence island, objects from, 122
Salt mine near St. Thomas, Nevada, 227

- Salvador*, expedition to, 12
- Saville, Foster H.*, Indian wells on Long Island, 207
- Saville, Marshall H.*, activities, 86, 88, 134; Ancient mosaic ear-plugs from Peru, 145; Balance-beam scales in ancient Peru, 266; Monolithic axe from Nicaragua, 34; publication by, 341
- Scales* in ancient Peru, 266
- Seneca* manuscript acquired, 242; masks and their uses, 191; tobacco customs, 127; tobacco pipe, 231
- Shield, Crow*, 315
- Shrine* to Mother Corn, 31
- Skiff collection* acquired, 241
- Skinner, Alanson*, activities, 136, 140, 142, 246, 339, 340; An early Long Island tragedy, 290; Another Indian village-site on Staten Island, 296; Archeological specimens from St. Croix, 109; Iroquois falseface pipe, 321; Obituary, 247; Recently acquired Mohegan articles, 38; Remarkable Oto necklace, 36; Seneca antique tobacco pipe, 231; Seneca tobacco customs, 127; Some Seneca masks and their uses, 191; Staten Island petroglyph, 313; Tree-dweller bundle of the Wahpeton Dakota, 66
- Skull medicine bundle* of the Crows, 119
- Southwestern pottery*, fine-line decoration of, 24
- Speck, F. G.*, activities, 87; Central Eskimo and Indian dot ornamentation, 151; Northern elements in Iroquois and New England art, 1
- Staten Island*, petroglyph from, 313; village-site on, 296
- Stockbridge*. See *Mabican*
- Sumu*, Rama, and Mosquito of Nicaragua, 44
- Surinam*, Indians of, 309
- Tierra del Fuego*, expedition to, 322
- Tobacco*, Seneca customs regarding, 127
- Tobacco pipe*, Seneca, 231
- Tradescant Museum*, catalogue, 340
- Tree-dweller bundle* of the Wahpeton Dakota, 66
- Turbyfill, C. O.*, activities, 144
- Verrill, A. Hyatt*, activities, 244; Indians of Surinam, 309; Sabanero-Guaymi trip, 232
- Village-site* on Staten Island, 296
- Virgin islands*, archeological collections from, 109
- Visitors* to Museum, 144

Wabpeton Dakota, tree-dweller bundle of, 66

Wells, Indian, on Long Island, 207

Wildschut, W., activities, 246; collections by, 86; Crow love medicine, 211; Crow shield, 315; Crow skull medicine bundle, 119

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